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CONGRESS ON THE FUTURE: EDUCATION

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PAPERS PRESENTED

at

CONGRESS ON THE FUTURE: EDUCATION

December 3-5, 1970

Hotel Macdonald
Edmonton, Alberta

PREFACE

CONGRESS ON THE FUTURE: EDUCATION seemed to leave participants with strongly mixed feelings. Some were overwhelmed by the prospects for the future presented at the Congress, while others were apparently "turned off" by the Congress, considering it irrelevant. There are frequently great discrepancies between original intentions and others' perceptions of them, and this would appear to have been the case at the Congress.

It was never envisioned as being capable of effecting any major changes in the mere one and one-half days of planned sessions. Rather, its prime purposes were the creation of an awareness of futures research, through the forecasts and papers presented, and of the potential value of such research as a tool for planning -- in this instance, in an educational context.

The intention was to stimulate interest in futures and planning, not to solve problems or answer questions about education in future Alberta. More than likely, it was hoped, the Congress would raise far more questions than it would answer.

The forecasts presented at the Congress indicated what seems likely for the future of Alberta, based upon projections of recent trends and upon the collection of opinions of "panels of experts" throughout the province. The message of the Congress is fairly simple and straightforward: man does not have to accept the future passively; he can control and, indeed, select the future of his choice. Thus, if certain trends for the future seem desirable, man can formulate plans and policies to foster their realization. On the other hand, for those aspects of the future deemed undesirable, plans and policies of intervention can be considered to alter present conditions and offset trends.

Much of the misunderstanding which developed concerned the structure and purpose of the assessment team sessions. Their main purpose was to provide extended opportunities for participants to react to the forecasts and interact with each other, focusing particular attention on the implications of the forecasts for the future of education in Alberta. The ballot was included merely to obtain a reaction from the participants to a set of policy statements, which were developed to serve as potential "jumping-off points" for discussion. Similarly, the discussion guide was provided to stimulate discussion, and was to be used as extensively or as little as desired, according to the feeling of each group.

Possibly most encouraging and significant of all was the intense feeling which was engendered by the issues under consideration at the Congress. They were definitely of concern to all participants, and although there was often very little agreement on them, the strong reactions have underscored the critical need for extensive re-examination of present practices in education. People came to CONGRESS ON THE FUTURE: EDUCATION because they felt that changes are required. What the Congress might have indicated is that people differ markedly on the magnitude and direction of change required. This was a congress which focused on "what ought to be" - the values and goals of education. Participants seemed to be advocating the need for another congress, to deal with the development of plans and strategies for achieving educational goals -- a congress for action!

The following papers include all major presentations at the Congress, with the exception of the Harold Dyck paper on "Social Forecasts". Because his book, Social Futures Alberta: 2005 was distributed to all participants at the Congress, and because his paper was based on the research reported in the book, it is not included here. Additional copies of Dr. Dyck's book are available from the Human Resources Research Council of Alberta.

Warren Ziegler's speech provided an overview of futures research and its applications to planning -- educational planning, specifically. He indicated a number of possible approaches to planning, and suggested that whatever futures research may forecast, it is within man's power to alter or shape the future, through long-range planning, if he so desires.

Donald Seastone's paper has been included because publication of his final report will not be completed until later this year.

He presented data from a research study he is currently conducting for the Human Resources Research Council of Alberta and the Commission on Educational Planning, dealing with the economic, demographic, and industrial future of Alberta. Dr. Seastone's study is based on projections of existing and recent trends, with specific assumptions about the future incorporated in the projections. Basically, his findings indicate what Alberta will be like if current and recent trends continue.

The second major study, on the social future of Alberta, also sponsored by the Human Resources Research Council of Alberta and the Worth Commission on Educational Planning, was conducted by the Westrede Institute under the direction of Harold Dyck. This study employed the "Delphi Technique" -- a popular futures research method, which involves consulting panels of experts, to achieve consensus on the probability and timing of specified future events.

Thus, the approaches used in the two major studies are quite different -- the first being based on statistical projections of recent trends, while the other is based on the speculation of people considered to be expert in the area being investigated.

Harold Baker's paper related some of the foregoing projections and forecasts to possible and probable needs of individuals in future society, along with their implications for education. Dr. Baker's task was to create a possible scenario of education in the future, which would provide a springboard for discussion in the following assessment team session.

Pierre Berton provided a culmination to the events of the Congress, intermingling his own experiences with his insights and critical analysis of the future, education, planning, and what had transpired at the Congress. It should be added that, at the request of groups of participants who wanted a hearing at the Congress, Mr. Berton shortened his address in order to moderate a question and reaction session.

R.J. Pacey
Congress Coordinator

THE FUTURE OF EDUCATION: WHO SPEAKS FOR MANKIND?

by

Warren L. Ziegler
Co-Director, Educational Policy Research Center

Introduction

My subject this morning, like Caesar's Gaul, is divided into three parts: education, educational planning, and the future. Each one of these parts is worthy of extended discussion by itself. But as this Conference has been called to enable 300 policy leaders to examine the future of education in Alberta Province, it seems to me that my task is not only to explore each of these three parts separately and stop at their borders. It is primarily to explore the whole territory in the attempt to achieve a beginning synthesis.

There are three separate propositions I wish to put before you and elaborate on. The first is that education as it is now generally practiced throughout the world is in a disastrous state of affairs. The second is that the future which confronts mankind turns out to possess characteristics which may be even more catastrophic for humanity than the present. The third is that educational objectives, practices and structures must change radically if education is to become an instrument for the survivability of our humanity. To put it more clearly, education must change radically if it is to generate among the youth and adults we are now training a disposition and capacity to confront these catastrophic futures and make them less likely to occur.

It may be that planning for the future of education will enable us to modify these gloomy propositions. I shall argue that long-term policy planning for education has no other purpose. But to argue a case is no guarantee that its application to current educational practices and policies will, in fact, be decisive. There is no proof, because there is so little demonstration and evidence that educational planning does take into account future possibilities and desirabilities. We find in educational planning too few experiments, innovations and breaks with the past to demonstrate that a new concept of education would enable mankind to learn how to control and direct the engines of self-destruction it has and continues to invent.

Let me say right at the start, and particularly with reference to my own country, that we often ask too much of education. I am not suggesting, then, that an education system, of any kind, can solve problems outside of the system. I emphatically do not mean to suggest that education in schools and colleges can, or should be expected to, solve economic, social and political problems. These problems are many: of ecological disaster and world-wide pollution of our atmosphere, of nation-states engaged in habitual power-politics and conflict, of the population explosion, unstable world markets for agricultural products on which so much of the world's population still depends for its livelihood, economic inflation or recession, racial conflicts, urban decay, and violence. These are not going to be solved by what we call an education system.

But I am suggesting that the institutions we rely upon to deal with these kinds of problems, such as governments, industrial corporations, research and development organizations, and various community organizations are manned by human beings who receive an education, the purpose of which must be to enable them to deal with these problems more effectively. That is not, of course, the existing function of education. As a system, the function of education is to grow to meet the rising demand for more education. But as education systems around the world grow, more and more of these external problems are thrust upon their shoulders.

What we must demand of education is the development among learners of a set of dispositions, capacities, skills and knowledges to deal more effectively with the rapid changes which confront us. I am not too clear how this purpose can be attained. I do not believe anybody is. I can, and shall today, attempt to describe the problem in such a way that perhaps, in the deliberations of this Congress, you can discover some new ways of achieving this objective.

The Present State of Affairs in Education

Let me turn first to the proposition that education as it is now generally practiced throughout the world is in a disastrous state of affairs. My basic argument is simply this: Education, in rich nations and poor, puts into practice, by what and how it teaches, and by what and how it produces learning, models of the past. Educators, government leaders, parents, teachers -- all, I note, who are adults -- look almost exclusively to the past to discover the values, beliefs, and skills which educational systems inculcate into the young. In brief, education is a specialized and generally powerful instrument of socialization, by which we attempt to impose the past upon the future.

Such an attempt, which has served mankind well until recently, is now patently inadequate. It is wrong, it is foolish, it is disastrous. But it is very understandable. As both educator and parent, I participate in this foolishness. I do so because my own education did this to me.

Peter Drucker, in the Age of Discontinuity, speaks of major breaks now occurring between the past and the future. We are all familiar with the rapid changes taking place in our own lifetime: in politics, society, technology, and beliefs. Education is not changing at the same pace. It is, indeed, rather anti-dilluvian in its practices. Let me review some of them briefly. Education assumes that the mark of an educated man is the certificate he holds from a school or college. It proposes to have us continue to believe that what a man knows can be tested objectively, and that what can't be tested objectively, by a process of standardized measurements, is not worth knowing . . . or at least is not worth educating about. It tells us that education starts with the young and stops someplace between adolescence and adulthood . . . as if there were still agreement that there is a clear dividing line between these two ages of man. It demands that we group our children and youth into homogeneous age-grades, or classes, as the structural basis for sequential learning, and it denies the entire evidence of traditional societies that children, youth, and adults, can be intermixed and interrelate in a variety of ways which produce reciprocal learning. It says that education takes place in one location and work in another, and that the two should not be intermixed. It assumes that education is a preparation for life, but not life, and that more and more youth should spend more and more time preparing for life rather than living it. In other words, it postpones the age of participation, responsibility and the acting out of adult roles far beyond what we now suspect are the interests and capacities of younger people to do just that . . . act as adults.

Finally, and most devastatingly, the educating systems of the world, in all countries, assume that we, the parents, have turned over the education of our children to a specialized system of classrooms, curricula, teachers and administrators in order to have inculcated into our children the models of the past, which we have learned in our upbringing. That last assumption, I surmise, is true. We have done this. As societies have become more industrialized, more characterized by complex division of labor and the specialization of roles, we have indeed turned over to the school system the job of preparing our children for what we continue to believe is the most important activity in human affairs: manning the engines of economic production, producing economic growth and higher incomes, and creating more material blessings on earth.

We are all familiar with the rapid changes occurring in our lifetime. Education is simply not changing at the same pace. It is backwards. No government, no corporation, nor farmer or businessman, could exist -- and many of them fall or fail -- without attempting to shift their ways of thinking and behaving, so as to at least keep up with the pace of change which impinges upon them from all sides. But education does not fall. It grows. In the wealthy nations, the education system has grown at an incredible rate since the end of World War II, calculated as the percentage of populations which spends an increasing amount of time in school. In more and more poor nations, which have just begun to build their educating systems, tremendous allocations of scarce public resources are directed towards building specialized systems of schools and colleges on the Western model.

Let me give you a few statistics. In my own country, 100 years ago we graduated 6% of our 18-year old population from high school; that is, 6% of the potential completed grade 12. Today, about 80% graduate with a high school diploma.[1] During the period 1950 to 1965 -- 15 years -- in member nations of the O.E.C.D., growth in enrollments was 32% in primary education, 87% in secondary education, and 150% in higher education.[2] It appears that men everywhere, in every society irrespective of their objective economic and social conditions, are riding on the back of a tiger and cannot get off. That tiger is education. What we see is the active exercise of what Thomas Green calls a widespread belief in the efficacy of education, a belief that "education is a powerful force in shaping the subsequent 'life-chances' of any individual," measured in terms of upward social mobility, income, jobs, social status.[3]

We find, then, that we are confronted with an enormous growth in the system, which reflects a response to fundamental changes in structural features of societies as they grow wealthier, more industrialized, more specialized, more complex. Education is rapidly becoming the main business of society. This fantastic rate of educational growth around the world, rich and poor nations alike, includes not only enrollments in the formal, traditional systems of schools and colleges. It includes the rapidly increasing participation by adults in formal programs of instruction outside the traditional system; in functional literacy programs in poorer nations, in manpower training, liberal education for adults, correspondence courses, management development and even educational television. In the United States, for example, there are perhaps as many adults engaged in formal instruction out of school as there are full-time students enrolled in schools and colleges; 60 million adult learners.[4] We are approaching the age of education, the age of formalized learning, a massive response to the very fact of growth, explosion, revolution and change in all other aspects of life.

But still, when all is said and done about growth, we confront these hard questions. What is education supposed to do? What goals should it seek? Is it possible and desirable to move education in new directions, where it is judged not by its quantitative response to past pressures, but by the quality of human experience it might generate and the quality of human capacities it could develop and bring to fruition. These questions are at the crux of the great educational crisis of our time: for what purposes is education now to be understood? Let us see if looking at the future will provide any assistance in getting at some answers.

The Uninhabited Territory of the Future

The first aspect of the future which catches the eye is that there are no experts. The territory is largely uninhabited, except by some few of us, trained in specialized disciplines which scarcely prepare us to explore its general dimensions. We are like astronauts or cosmonauts, exploded out into the vast, empty space and time of the future. As we look behind us, we see the world, as never before seen by man: a globe, a whole, a unity, a synthesis. It is terrifying in its beauty, quite beyond our ancient comprehensions, stretching our mental muscles and spiritual tendons to the breaking point. Can we forecast that the future will be better than the past? Men want to *know* what the future holds for them, but it is not that simple. Indeed, once you have crossed into the future, you are in that special domain of imagination, conjecture and speculation, the territory of possibility, plausibility, desirability and inevitability.

How do we cross that border which separates the veritable security of past knowledge and cultural tradition from the ambiguity of the future? What part of the past should we carry with us into this unexplored and unfamiliar territory? There are many footpaths which cross the border. Which one should we take? Each footpath divides into others, scarcely a hundred years ahead. These trail off into nothingness in the dim light, amid unfamiliar trees, among which seem to lurk and shift about the shadows of our hopes, our dreams and visions, our fears.

How well are we prepared for the journey? The education we have all received is scarcely an effective launching pad. That education, in every country of the world, says that we must look to the past to find our ways into the future. But can it prepare us for a future which is different from the past?

For there is no true path, at least not one which is apparent from studying the past. Beware of those who claim otherwise, who make predictions, who assert they know what the future will be like. That we do not know. The main question is not what do we know about the future. It is what shall we do now about a future we do not know. We study the future in order to take wiser actions in the present. And action, while informed by knowledge, is guided by intentions. The past is what we know. The future is what we seek. But in the future, at least one 30 years away, will be the present after some of us are gone. To whom, then, does it belong . . . we who seek after it, or those who will live in it?

The future, if it belongs to anybody, belongs to the people who will inhabit it. If we are to lay claim to it, it must be because we wish the futures of our children to be theirs in a way quite different than the present is ours. To use a phrase aptly coined by my colleague Professor Edwin Bock of Syracuse University, we in the present have been "colonized" by the past. Are we now to "colonize" the future, to people its shores with our needs, our limitations, our failures? To the contrary, we must devise ways to make more likely that future generations have options not available to us to seek after the good, the beautiful, and the true. Our task is not to constrain the future; it is to open it up.

But the future is an immense territory, not constrained by the artificial political boundaries which separate Alberta, or Canada, from the United States, or these two jurisdictions from the rest of the world. Whose territory am I to explore? Like Archimedes, I look for a fulcrum on which to rest the levers of my perceptions. If I can find that fulcrum, I might move the world.

The fulcrum is the concept of mankind itself. I am not sure what this word, "mankind", means. It is a concept fraught with potential as well as a depressing actual. Mankind possesses many futures. Which ones am I to forecast? Which ones are the least surprising, the most likely? I have chosen four which share this in common. They concern every citizen of the world, youth and adult, slave and master, rich man and poor, educated and uneducated. They pose special problems, massive dilemmas, critical to the future of education around the world. They force me to speak out for mankind.

Yet I could make these forecasts with scarcely any concern for the future of mankind. They are, in effect, what all forecasts purport to be: extrapolations from the past, trends which we believe we see in the events and forces surrounding us which we project into the future. A forecast, in this sense, is value-free; neutral; to be judged not on the basis of its desirability but on the basis of its plausibility. Though we do not know the future, in the sense in which we say we know the past, and give hard facts as evidence for our belief in the validity of that knowledge, still we forecast the future as if we believed in the validity of the forecast. Let us beware of our beliefs. For we do not forecast the future solely as a way of making truth statements about the future. We make these forecasts for other purposes: to move men to react and act in ways which they would not have done in the absence of the forecast. I shall give you four forecasts which demand action, and not in education alone. They demand action on behalf of mankind.

1. Interdependence: We are now living in an interdependent world, Marshall McLuhan's global village. This interdependency will escalate exponentially. A few obvious examples -- which are probably not new to you -- will demonstrate this growth. The effects on international markets of the economic decisions of corporations, cartels, and national governments; the universal reach of scientific discoveries and the consequences of their technological application; the pervasive encroachment on traditional values and attitudes of the communications and transportation revolution; the growing trend among nation-states to stockpile weapons of

mass destruction coupled with the likelihood of their increasing miniaturization and concomitant secrecy and stealth of delivery; the radicalization of students in colleges and universities. But has the fact of this interdependency led to a heightened and more broadly-based perception of its consequences? I think not. I forecast only that this interdependency, bred of world-markets, mass communications, jet transport, nuclear weapons, scarce resources and endemic pollution, is escalating at a fantastic pace.

What education might we invent which develops in students a disposition and capacity to deal with this interdependence among men and institutions across ancient political boundaries?

2. The Separation of the World into Rich and Poor Nations: Once again, the notion of rich nation-poor nation, or the "haves" and the "have-nots" should not be a new idea to you. It is a trend with a long history. Only recently have we begun to recognize that the historic imbalances in the distribution of economic and technological capacities and advantages should be rectified. But it appears that the distribution of material well-being, as it is currently defined, is likely to become progressively wider and uneven between the various regions of the world. The raw data of these projections are devastating to contemplate. Let us consider the period 1965 to 2000. According to Herman Kahn and Anthony Wiener, in 1965 the average per capita income among Western nations, including Japan, was 12 times the average for less developed countries. By the year 2000, this gap will have grown such that the rich nations will have a per capital income 18 times that of the poor nations. Japan and

the United States may have a per capita income as much as 35 times the average in the lesser developed regions.[5] To put it another way, Kahn and Wiener note that in 1965, the lesser developed countries possessed 68% of the world's population and produced only 14.8% of the world's output. Their standard projection . . . that is, neither minimum nor maximum, their best "guess" . . . is that in the year 2000 the LDC's will possess about 78% of the world's population -- instead of 65% -- but will still account for only 14.5% of the world's output.

I am not concerned with the precise accuracy of these forecasts, but with the central theme of this scenario, which is overpowering: that the economic division which now exists in our world will become exacerbated. One is hard-pushed to picture, in one's mind, the teeming billions of human beings continuing to live under economic and social conditions of human deprivation which none of us sitting here would countenance for one second. I have no solutions to offer, only a question. Can we plan for a future of education in Alberta which does not take into account this fundamental and widening division among mankind?

3. The Escalation of Rational Technicism: This is an exceedingly complex trend, to which I can scarcely do justice in a brief discussion. Perhaps it is best understood as a most fundamental mode of perceiving, believing and behaving which appears to increasingly permeate not only our institutional behavior but the very grounds for our judgements about what it means to be human.[6]

Most of us, perhaps, would refer to this trend of rational technicism as the final triumph of technology; and I suspect that at least some of us celebrate that coming triumph. This is a faith that technology, which has created so many social, political and human problems, can solve these problems by the application of further technology.

But rational technicism is more than the application of technology to alter the human environment. It is to alter the environment in such a way that the only behaviors that environment will support are technological. It is the application of _technique_ to a perception of what it means to be human; to be human is to _be_ a technique; to serve purposes which deny other conceptions of humanness ; even, to serve purposes which are not generated by an act of self-definition, but by the consequences of our extraordinary capacities to control and manipulate nature. We . . . we humans . . . have then become "nature" too; and we can, will and do act towards ourselves as natural objects in the same sense, and perhaps with the same devastating consequences, as we have learned to act towards the natural environment. We change "nature." We manipulate it, break it apart, transform it, pollute it or exhaust it.

We have apparently learned to change ourselves, to manipulate, break apart, transform, use up, exhaust, pollute, and perhaps ultimately destroy ourselves as human environments which are habitable for human beings. That would appear to be a strained metaphor. How can human beings, as individuals, and in their collective interactions, become an environment within which it is impossible to be human? The experience of concentration camps in Nazi Germany, it seems to me, is exactly that metaphor come to life. The brutalization of my fellow citizens in the United States by the application of cost-effectiveness techniques in the

Vietnam War, such that "body-counts" become the indicators of effectiveness and benefit, is that metaphor come to life. We have lost . . . or are rapidly losing . . . the capacity to discover in ourselves a sense of self-hood other than the power to manipulate and control each other.

Such a loss has, of course, the most profound consequences for education, and for education in the future. For education becomes viewed as a system of highly interdependent structures and behaviors whose technicist function is to grow and maintain itself. Education becomes system and process. It creates its own momentum, and woe to the citizen or schoolman who tries to shunt it on a different track. In sum, what education is, is what education does. The issue is only how to make it do better. But such a technicist conception of education abolishes the notion that education should serve other ends. What these ends are . . . for what purposes education is to be understood . . . is the real agenda of this Congress.

4. The Shift of Science from Looking Outward to Looking Inward: While this shift is part of the technicist view of the human condition, it represents a specific, salient trend in its own right. In this day and age of astronauts, space exploration, atmospherics, and the amazing breakthroughs in high-energy and solid state physics and the chemistry of plastics, we may be unaware of the accelerating shift in scientific activity from the objective world "out there" to the objective world inside the fragile casing of the human skin. Yet the forecasts of possible breakthroughs in micro and molecular biology, cytogenetics and genetic engineering represent a rapidly escalating scientific knowledge

about historically sacred phenomena. Let me give you a sample list of such forecasts.[7]

I shall describe only those developments forecast to occur before the year 2000. Each forecast represents the consensus opinion of a group of scientist-experts in the relevant fields, about the date when these scientific discoveries or breakthroughs have a 50% likelihood.

Around 1980, thus ten years ahead:

- Availability of cheap, non-narcotic drugs (other than alcohol) for the purpose of producing specific changes in personality characteristics.
- Laboratory creation of a primitive form of artificial life (at least in the form of self-replicating molecules).
- Demonstration of techniques by which the sex of babies may be chosen with 90% certainty. This is a startling new event. In the history of mankind, we have no experience with how or why to choose the sex of our babies. 50.2% were male, 49.8% were female. But here, in ten years, this power may be ours. How do we acquire the wisdom to exercise that power?
- Specific knowledge of how to stimulate the cognitive growth to maximal ability of preschool children.

Between 1980 and 1990, thus ten to twenty years ahead:

- The development of a "human clone" -- the nucleus of an ovum is removed and replaced by a somatic cell, allowing development in a host mother of an identical twin of the person supplying the somatic cell. In effect, each person could reproduce himself exactly. Which one in this room is prepared to produce an identical twin?
- Fertilization of a human ovum in vitro with implantation into surrogate mothers.
- Control of the behavior of some people in society by radio-stimulation of the brain.

- Human parthenogenesis -- an ovum stimulated into development of a full-term baby without being fertilized by sperm (in host or natural mother). Woman is sole parent.

These and other forecasts in this general area represent but the surface of a major new thrust in science to understand the scientific bases of human life and behavior. In 1970, we are caught up in a spiralling momentum of the production of knowledge about areas of life which have heretofore withheld their secrets from us.

But what is knowledge? Is it not the instrument by which we seek to control and manipulate the natural environment? However much we proclaim the myth of seeking new knowledge for its own sake, in fact is there any knowledge which we do not attempt to use?

This shift in scientific focus is an aspect of the now familiar knowledge explosion. We look for fundamental breakthroughs in the processing, retrieval, and management of knowledge, by new generations of computers, to enable us to solve the moral and political issues we are creating. Sometime in this decade, we are told, there is a substantial possibility that we will have available a computer which comprehends standard IQ tests and scores above 150.[8] At the beginning of the next decade, we are told, we might expect one million-word, desk-size or possibly even brief-case size computers, using laser memories; that in the next twenty years, we can anticipate chemical memories and chemical information storage.[9]

There is, it seems, some parallel between the acts of human intelligence and the behaviors of intelligence-like computers of the future. But what of wisdom? Is there a need for it, can it be taught? Is this not a new task for education: to develop the capacity for wise judgement to ameliorate the consequences of the new knowledge we cannot seem to avoid producing?

When we talk about intelligence and wisdom, we are inevitably drawn towards the processes of learning and the activities of education. Intelligence is a human potential, distributed widely and randomly among all ethnic groups and socio-economic classes. It is a mental capacity to process and manipulate sensory and symbolic data. We look to education to transform the potential into the actual, by a process of learning which trains the intellect to train itself; to move from a reliance on the teacher as the model of intelligent behavior and manipulator of data for the student to a reliance on one's own intellect to be self-corrective.

But what of wisdom? Wisdom is the exercise of practical judgement in human affairs to choose among alternative ends, values and actions. Wisdom possesses a moral component as well as an intellectual component. It is the exercise of a capacity to meliorate between the _is_ and the _ought_, between the possible future and the desirable future. In recent times, we have not relied upon education to produce practical wisdom. But now we are in desperate need of it. The disaster of education in today's world is that while it has developed the potential to bring intellect to a high standard for more and more people around the world, it has apparently little present capacity, as a system, to produce wisdom.

But the kinds of trends I have outlined demand the exercise of wisdom, now and in the future, at a scale never before required. Can education meet this requirement? Where should we look to find a time and a place to develop wisdom, if not to education, not only for our youth, but for adults as well?

Consider, now, what I have done so far. I have led you from a proposition about education's present disastrous condition to a statement about the future posed in catastrophic terms. The forecasts, which I would defend as plausible projections, demand a response. The response, I have suggested, is a challenge to education. To change education in some purposeful manner requires, I would submit, some kind of planning. For planning is an act of intervention in the present for one of three purposes: to prevent the forecast from occurring, to enhance the likelihood of its occurrence, or to devise _new_ forecasts which suggest alternative possibilities.

A Simplified Typology of Planning

Let me consider, in turn, each of these three ways in which planning reacts to the objective extrapolation of trends and events we perceive in the past.

1. _Preventive Planning_: The function of preventive planning is to intervene in the present so as to render false a forecast we find undesirable. One example is the large number of recent forecasts about atmospheric pollution caused by industrial wastes, jet airplanes and internal combustion engines in automobiles. Clearly, we make such forecasts to alert us to the consequences of newly discovered trends about the increasing rate of atmospheric decay, on the assumption that we can plan and act in such a way as to render that forecast wrong.

Preventive planning is a reaction to a perception of crisis. It is crisis planning. It assumes that the future will be very much like the past except that the crisis will be solved. It is planning for a single, alternative future, the chief characteristic of which is the absence of the crisis which engendered the planning in the first place.[10] Other aspects of the future are thought to remain unchanged from the past.

Much educational planning is of the preventive kind. In higher education, for example, we forecast an increase in the demand for places in colleges. Unless campus facilities are enlarged, teachers recruited and trained in adequate numbers, it is forecast we will be confronted with a crisis because the system can't satisfy the demand. That crisis must be prevented. Therefore, we allocate resources adequate to eliminate the crisis. We make a counter forecast of a future in which that crisis is absent. But what if, by the time that future becomes the present, we have developed communications technologies and instructional techniques which enable us to provide education outside the walls of institutions, away from the traditional campus? What if it turns out that we do not need campus facilities because electronic video recordings, home computer consoles, and direct audio-visual linkages between student and teacher have by-passed the need for residential education?

Such planning suffers from a lack of comprehensiveness. Its view of the future is uni-dimensional. It does not take into account a range of other factors which might modify our perception of crisis. Consider the possibility that we might change our belief that higher education must follow sequentially after graduation from high school. It might take place any time in a person's adult life. We are then confronted with several alternative futures for higher education, only one of which satisfies the crisis elimination function of preventive planning. Which one should we choose? For which one should we plan?

2. Adaptive Planning: The function of adaptive planning is to intervene in the present so as to prepare us to adapt to an eventuality which we feel we cannot prevent. The list of forecasts I gave you on the climactic breakthroughs expected in the biological sciences may well lead to this kind of educational planning. No doubt, there are people who would see such forecasts as a clarion call to preventive action. Ban the scientists, stop the technological world so that we can get off. Others would view these forecasts as a description of future scientific knowledge and technological application which will confront mankind with a situation to which it must adapt. We must learn how to modify our beliefs and our values, as well as our decision-making behaviors, to deal with the moral and social dilemmas engendered by these newly discovered ways to interfere with the very processes of life itself.

A significant question to address to any forecast, then, is whether its function is to provoke preventive or adaptive planning. The forecasts by Kahn and Wiener, as well as of numerous other demographers, economists, agricultural experts and the like, about the likelihood of a growing maldistribution of income throughout the world could lead to either preventive or adaptive planning. The Pearson Report, with which you are perhaps familiar, takes these forecasts in the preventive sense. How can rich nations devise new forms and kinds of foreign economic and technical assistance such that the rich-nation/poor-nation forecast is rendered obsolete?

But this set of forecasts can also lead to adaptive planning. Thus, we can raise questions as to how the world might learn to exist in such a condition of objective maldistribution and inequity. The word "learn" is crucial. Can poor nations learn new behaviors, develop new attitudes, seek different objectives and models for their development? Can they invent new or alternative systems of education, or must they follow the Western model of schools, teachers, teacher training, institutions, etc.?

Much longer-range educational planning is adaptive. It is fundamentally technicist in its approach to the future. Education is viewed as a system responding to societal needs. As society changes, so must education. For example, in his opening address to the O.E.C.D. Conference on Policies for Educational Growth, held in Paris last June, the Secretary General of the O.E.C.D., Emile van Lennep, stated that " . . . in the early 1960's, education was generally seen as providing the 'human capital' needed for economic growth -- it was seen as an input to provide economic outputs. Obviously, this will continue to be one of the important aims of educational policy."[11] In a world gone mad for economic growth, much educational planning pursues a manpower development objective, in which the human person is seen as a cog in the economic engine. But examine the unintended and unanticipated consequences of economic growth, the ecological and human pollution we create.

In my own work with educational agencies in the United States, I am constantly confronted with this adaptive notion of educational planning. It results from the attempt to forecast economic, social, political and other environmental states of affairs which, it is held, we must prepare our young people to meet and deal with when they become adults. The need for some kind of long-range planning for education is seen, in this perspective, as crucial. But what kind of planning? We tend too easily to forget . . . or to neglect . . . the fact that the children we plan to educate in this coming decade will be approaching middle age in the second or third decade of the 21st century. Thus, the task becomes to develop an educational program which will give to children the capacities and the dispositions to adapt, to be relevant, to make it in that future world whose character we can only dimly see beyond the horizons of our own lives.

The practice of adaptive planning in education represents a long step forward from the day-to-day and year-to-year decision-making in education which has gone under the name of planning in the past.[12] It takes the longer-term view. But it assumes that the future is inevitable, that the function of forecasting is to discover these inevitabilities to which education must then adapt. It assumes that we cannot create an educational system one of whose outcomes is to assist individuals to choose among their alternative futures. There is, however, a third kind of planning for the future of education which attempts to do just that.

3. Inventive Planning: The function of this planning is to invent a state of affairs in the future which we want to bring about. Yet it is not a self-fulfilling prophecy, nor is it a forecast of utopias yet to come. It is an attempt to articulate, quite precisely, a range of alternative futures among which will be one or more we might purposefully seek to achieve, to adopt as the goals of our policies, planning and education practices. It is an attempt to describe future possibilities for human behavior, informed by our understanding of the inadequacies and failures

of past behaviors. It asserts that past educational practices and goals, projected into the future, are powerful constraints; but that they are not inexorable. It assumes that the future can be invented; that we can impact upon it, that we can choose it, that we can open it up rather than close it down. It calls for a new kind of long-range, comprehensive planning for alternative futures. How do we go about this planning? Let me, then, turn to some of the aspects of this new kind of planning.

A New Stance Towards the Future

If we assert that it is possible to conceive of the future of education as a range of alternative possibilities which go beyond the extrapolation of what education has been in the past, we are clearly moving from the domain of expectations to the domain of intentions. We are talking about the setting of goals. Goals are not-yet-occurred states of affairs. They are the creatures of what men seek, not what they expect. How are we to set these goals? What processes are available to us? There are no hard and fast rules, but there are some guidelines.

1. We should be extremely careful in how we perceive the present and recent past. The way we define the educational enterprise in the present will have a serious impact on how we choose to define it in the future. Studying the future imposes a heavy responsibility to attempt to understand what is happening now. For example, what would be the consequences for the future of a perception of education in the present which distinguishes between education and formal schooling? Are we to continue to assume that in fact education takes place only in schools? There is weighty evidence that learning is by no means restricted to the classroom, that important

kinds of learning take place in the home, in the community, in front of the television, on the job, and in the variety of human associations and experiences which make up our lives.

Yet are we to assert that education and learning are the same? I think not. Learning is a process which modifies our behavior, whether that behavior is emotional, intellectual, attitudinal, or motor. It occurs in many different situations, from pre-school and early childhood, through old age. Education utilizes the learning processes in order to achieve some goals rather than other goals. But not all of these goals are suitable for formal schooling as we now understand it. There is, thus, a tension between developing goals for education in a formal classroom setting, and setting goals for education which require at least a modification of classroom practices and may indeed require the development of new or modified educating institutions, with new or modified teacher roles, pedagogical techniques, curriculum materials, instructional technologies and physical settings. I believe that education for the future may well eliminate schooling as it has historically come to us; that compulsory education laws will be rescinded; that much education will utilize breakthroughs in communications technology to provide learning in a different time and space; that youth will be given the opportunity to leave school earlier and return -- at any age -- when they are ready for more learning.

2. Our examination of the future of education should be participatory in scope. The very instrumentality of this Congress suggests that there is already some agreement that the future of education for Alberta must be discussed by a rather wide range of participants. The issue is, who

participates? If the future of the year 2000 and beyond belongs to the children we are now educating, then we must try to find a way to involve them in planning for that future. I do not know at what age one begins to implement this principle of inclusion. That is a subject for experiment and test. The work of Piaget and Bruner suggests we ought not to automatically eliminate the youngster from the process of goal-setting.[13]

In higher education in the United States, by a series of peripatetic fits and starts, we are beginning to include students in the policy planning process. They have forced us to, by their increasing disaffection from the educational practices which emanate from goals set in the past.

If this Congress works, should it be limited to a carefully chosen 300 policy-leaders? Must it not be followed by other conferences, at the local level, where students, teachers, administrators, parents all participate in setting alternative educational goals in their communities?

3. Our examination of the future should focus on a longer time-horizon. There are no hard and fast rules for determining this time-horizon. Most educational planning is short-term, yet those for whom we plan will be living out their lives at a time when we will be dead. Any time dimension is feasible so long as planning is not construed as an attempt to control the future. To the contrary, long-term comprehensive planning for alternative futures is essentially a way of asking questions about the future, in which the alternative replies we get from the participants form an environment for current decision-making. This brings us to the next caveat.

4. This process should be more flexible and open to feed-back. Elsewhere, I have referred to this process as rolling planning.[14] It is a rather common-sense recognition of the unreliability of forecasting techniques which attempt to predict the long-term future. The goals set today, to be achieved in the tomorrow, may be quite different from the goals set in the tomorrow. Consider the possibility that the goals you formulated today, on the basis of your current values, beliefs and preferences, when they are achieved, may seem less worthwhile than when they were set. Otherwise, we must assume that values will not change, and that society is static. But the evidence before our eyes suggests that both propositions are invalid.

The four forecasts I set before you today may be stated quite differently ten or fifteen years from now. For we intervene in these forecasts. This Congress is a kind of intervention. We develop different perceptions and new experiences. They provide a new basis on which to project different, substantive forecasts. We act towards the future. In the very process of acting, we modify the present, and such modifications must then be taken into account in the next round of conferences, forecasting and goal-setting.

5. The process should attempt to judiciously balance its scope of inquiry with its span of effective action. This is a most difficult rule of thumb to implement. What if, for example, the scope of inquiry includes a focus on the dilemmas of mankind? Who speaks for mankind? Yet are we to claim that the forecasts, the plans, the goals, the policies which emerge from this Congress will affect mankind? We cannot claim this; but we might try it.

If we cannot bring about an educating system which develops in our children, and, indeed, in ourselves, a disposition and a capacity to pay attention to the kinds of trends I discussed earlier, why then are we wasting our time worrying about the future of education? The education system in Alberta will make its own future. It is on a track now, driven by the forces of past perceptions of education, as held by its teachers, its administrators, its policy-makers, its clients and beneficiaries, its supporting taxpayers. If it needs a new guidance system, it must be because of dissatisfactions with the old guidance system. It is important to find out exactly what the existing guidance system is. But parallel to that effort, we must begin to invent new guidance systems; not one, perhaps many. One such guidance system is, I submit to you, the notion of our common humanity. What are the conditions under which you might inject that notion into your long-range planning in such a way that it demonstrates to other school systems in Canada, in the Western Hemisphere, indeed in the world, the consequences of a notion of our common humanity applied to teaching and learning?

6. The process should enable us to pay attention to the unintended and unanticipated consequences of present policies. Every decision taken today in education will have consequences for tomorrow. Some of these consequences will range far out into the future when the dispositions and capacities we give our youngsters will be implemented in their adult world. Some of these consequences we intend to occur, and indeed we may state them as goals. But some we do not intend. Some we do not anticipate.

It is only by attempting to analyze and assess the consequences of the current policies for the future of education that we can discover what the implications may be when these children are adults. Will these consequences open up or constrain our children's humanity?

Conclusion

Let me summarize briefly. First, I have given you a general descriptive proposition about the present state of education. I have called that state disastrous, and given you some reasons, the chief one of which is that education still looks predominantly to the past for its models, its goals, its guidance systems, in a time of rapid social change.

Second, I have set before you four trends which seem to me to portend a catastrophic state of affairs in the future, an exacerbation of human dilemmas and endemic societal problems which pervade the world. In each case, I have suggested they pose a new demand upon education which becomes the agenda of educational planning, innovation, experimentation and change. The objective is to develop wisdom, but we scarcely know how to do this.

Third, I have given you a simplified typology for educational planning which is based upon the way planning, which is an act of intervention in the present to bring about some future state of affairs, responds to forecasts. The first is preventive planning, whose function is to render false a forecast we believe is plausible but undesirable. The second is adaptive planning, whose function is to prepare for a state of affairs we do not believe we can prevent because of the power of the forecast. The third is inventive planning, which seeks to develop a range of forecasts and plans based upon a set of perceptions of alternative possibilities, some of which we come to prefer over others. This kind of planning is long-range, it is comprehensive, it attempts to invent serious alternatives, and to intervene in the present to bring one or more of them about.

But long-range, comprehensive planning for alternative futures for education does not attempt to control the future, or to limit options for our children when they become adults. It attempts to expand the future by opening up the present to new ideas, new models. It demands a new stance towards the future.

Fourth, I have laid out briefly some caveats or rules-of-thumb for inventive planning. It is a new kind of planning, for which we possess no set rules. It attempts to ameliorate between our expectations of what is likely to occur in the future and our intentions as to what we would prefer to occur. It is, in short, an attempt to bring practical wisdom to bear upon the planning tasks. That kind of wisdom seeks to thread its way through the maze of the possible and the desirable, informed by a constant feed-back from many participants of the experience and insight gained from the implementation of plans.

You are now embarked upon a perilous but exciting journey into the future. You will no doubt take with you all of the baggage and paraphernalia of the past. But the further you go on your journey, the less relevant, the less useful is this baggage. There is only one question which remains with you, an ancient question pondered by philosophers, a new question researched by social scientists, a future question which looms ever larger on the horizons of the present. Who speaks for the future of mankind here in Alberta Province? If you will not begin, then who will?

Footnotes

1. James C. Byrnes, *The Quantity of Formal Instruction in the United States*, Educational Policy Research Center, Syracuse University Research Corporation, August, 1970, p. 2.

2. *Policies for Educational Growth: An Overview of Past Trends and Future Issues*, Note by the Secretariat, STP(70)25, Paris, May 6, 1970, p. 4. Prepared for the Conference on Policies for Educational Growth of the Organization for Economic Co-Operation and Development.

3. Thomas F. Green, *From the Revolution to the Constitution: The Future of American Education*, in draft manuscript, pp. 11-41.

4. Stanley Moses, *The Learning Force: An Approach to the Politics of Education*, Educational Policy Research Center, Syracuse University Research Corporation, 1970.

5. Herman Kahn and Anthony Wiener, *The Year 2000*, London: The Macmillan Company, 1967, Collier-Macmillan Ltd., pp. 141-142.

6. A most important essay on this phenomenon is to be found in Manfred Stanley's *Technicism: A Study in Demonology as Social Theory*, Harvard Program on Technology and Society, August 1970. Professor Stanley is an Associated Research Fellow at the Educational Policy Research Center at Syracuse, as well as a Research Associate with the Harvard Program. I am indebted to him for his insightful analysis of technicism, but take all responsibility for the gross over-simplification of its meaning presented here.

7. This list of forecasts was produced by a Delphi study conducted in 1969. Theodore J. Gordon and Robert H. Ament, *Forecasts of Some Technological and Scientific Developments and Their Societal Consequences*, Middletown, Conn.: Institute for the Future, September 1969, p. 27.

8. Ibid., p. 21.

9. As stated by John Hargreaves, Director, Public Affairs, IBM of the United Kingdom, Ltd., during an International Conference on Technological Change and Human Development, held in Jerusalem, April 14-18, 1969.

10. A more thorough discussion of this kind of planning can be found in my *An Approach to the Futures-Perspective in American Education*, Educational Policy Research Center, Syracuse University Research Corporation, May 1970, pp. 32-37.

11. As quoted in the *OECD Observer*, No. 46, June 1970, p. 17.

12. A much more thorough discussion of this kind of planning can be found in my An Approach to the Futures-Perspective in American Education, op. cit., pp. 23-32.

13. This is an extremely complex case to make. In 1960, reporting on the Woods Hole Conference at which were gathered thirty-five scientists, scholars, and educators, Dr. Jerome Bruner of Harvard University asserted "the hypothesis that any subject can be taught effectively in some intellectually honest form to any child at any stage of development." The Process of Education, Vintage Books, 1960, p. 33. Underlying this hypothesis is Bruner's pedagogical insight that the structure of knowledge is central to the teaching-learning process. This hypothesis, which yet needs careful examination and testing, could nevertheless be extended to studying the future. I am convinced that a major component in future educational curricula will be just that: studying the future, including learning the methods and attendant problems in attempting to choose among alternative futures.

14. An Approach to the Futures-Perspective in American Education, op. cit., pp. 59-60.

EDUCATION IN ALBERTA--POPULATION, ENROLMENT, ECONOMIC AND PROVINCIAL REVENUE CONSIDERATIONS

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The primary purposes of this paper are (1) to consider the probable levels and distribution of Alberta's population from 1970 to 1980, and from 1980 to 2005, and to explore the implications of these population data for enrolment at various levels of education; and (2) to consider the growth potential of the Provincial economy, its implications for Provincial Government revenues, and the relationship between these revenue projections and potential educational costs.

My charge from the Commission on Educational Planning was to synthesize, to the extent possible, available data on population, enrolment, economic and revenue variables. The Commission was not interested in abstract models of economic behavior for the purposes of this study. Thus, this paper and my subsequent report to the Commission should be looked upon as a compilation of available data and analyses insofar as they exist; and extensions of these data, where necessary, according to a set of assumptions and analyses that reflect my judgment about probable future patterns of behavior.

Alberta and Her People, 1970 to 2005

The first specific consideration of this study deals with the probable level, composition and distribution of Provincial population from 1970 to 1980, and beyond 1980 to the Centennial year, 2005. The population projections I have used are provided by the Alberta Oil and Gas Conservation Board. Last summer the Board published its population projections to the year 1999. Fortunately for me, the forecasting model used by the Board was capable of extension for another six years and the Board staff agreed to so extend their projections.

Essentially, the Board uses mortality rates, age specific fertility rates, and migration as the determinants of population levels. Most importantly, the projections recognize the declining Provincial birth rates that began about 1961. They also assume a continued high-level of net migration into the Province throughout the forecast period. Finally, the population data provided by the Board include the detail on age, sex and geographic distribution of Provincial population required for my analyses.

The total population in Alberta is projected to increase by about 23 percent from 1970 to 1980, reaching a level of about 1,950,000 by 1980, and the two million mark in 1981. Furthermore, the Province is expected to attain a three million population level by 2005. Throughout the forecast period, the rate of population growth is about 1.9 percent per year.

Age Groups

One characteristic of the growing population is expected to be the decline in the under-25 age group as a percentage of total population. From 1956 to 1970, this age group increased from about 49 percent to about 51 percent of Provincial population. From 1970 forward, however, this percentage distribution is expected to decline, to 47 percent by 1980 and to 43 percent by 2005. Thus, as the 0-24 age group grows from about 803,000 in 1970 to about 924,000 in 1980, the rate of increase is only 15 percent compared to the rate of 23 percent for total Alberta population. Beyond 1980, as it continues to decline as a percentage of Provincial population, the 0-24 age group is expected to increase by about 15,000 per year, to about 1,300,000 by 2005.

Within the 0-24 age group, the 6-11 age group will decline from about 255,000 in 1970 to about 240,000 in 1980. The same thing occurs in the 12-17 age group in the last five years of this time period, as the 230,000 figure of 1975 declines to about 207,000 in 1980. Beyond 1980, both age groups are expected to experience continuous increases in numbers of potential school enrolees. From 1980 to 1990, however, the 18-24 age group falls from a level of about 273,000 to about 246,000, but will increase by nearly 7,000 per year after 1990.

Regional Distribution of the Population

The continued migration of Alberta's population to urban places in recent years produced a 71 percent urban population by 1970. This trend will produce an 80 percent urban population by 1980 and more than 90 percent of Alberta's three million people are expected to live in urban places by 2005. An urban place as defined by the census is a concentration of 1,000 or more persons.

As the trend to urbanization continues, so too will the dominance of the Edmonton and Calgary Regions as population centers. In 1956, The Edmonton and Calgary census division regions already accounted for more than 50 percent of Provincial population. By 1970 the figure was approaching 60 percent and by 1980 is expected to be greater than 63 percent. By 2005, more than 70 percent of the Provincial population is expected to be concentrated in these two urban centers, both of which are likely to have populations in excess of one million persons.

Provincial Enrolment in Educational Institutions

Enrolment at the various levels of the educational process in Alberta in recent years has experienced an uninterrupted growth. At the primary and secondary school level, for example, enrolment has increased steadily at every grade level. Thus, the 174,000 enrolment level of 1950-51 has grown to nearly 410,000 by 1969-70.

The massive increase in public school enrolment in the last 20 years is explained not only by population increases in the 6-17 age group but also by significant increases in the educational participation rates of the 14-17 age group. In 1950-51 only about 59 percent of the 14-17 age group was enrolled in public schools. By 1969-70 this participation rate has increased to 96.5 percent.

The steady growth that typified public school enrolments during the last 20 years is not expected to follow the same even course from 1970 to 1980 and beyond. In fact, Provincial enrolment in the 1-6 grades is expected to fall from about 221,000 in 1970-71 to about 196,000 by 1975-76. A 30,000 increase in expected enrolment at the 7-12 grade level will mean a small increase in 1-12 enrolment of about 6,000 during this period. In the subsequent five-year period, however, enrolment in grades 7-12 will reflect the previous decline in 1-6 grade enrolment and will fall by nearly 24,000. A slight increase in 1-6 enrolment will not offset the decline in grades 7-12 and total enrolment of about 415,000 in 1980-81 should be nearly 17,000 less than in 1975-76. In fact, enrolment in 1980-81 will be about 8,000 less than in 1970-71.

Beyond 1980, enrolment at public schools is expected to resume a relatively steady growth path. Between 1980 and 1990 it is expected to increase by about 100,000 to a level of nearly 509,000 and in the ensuing fifteen-year interval to increase by another 100,000. Thus public school enrolment in 2005 should approximate 610,000.

Potential Kindergarten and Pre-School Enrolment

According to a recent study by the Economic Council of Canada, Alberta is the only Province without firm plans for a comprehensive public school kindergarten program. By 1980 every other Province is expected to have at least a 60 percent participation rate of five-year olds in public kindergartens, while Alberta's projected rate of participation in private kindergartens is about nine percent.

If the Province were to initiate a public kindergarten program, and to reach by 1980 the participation rate already existing for Canada as a whole, about 63 percent of five-year-old children would be enrolled. This would involve a kindergarten enrolment of about 24,000. If the participation rate increased to involve all five-year olds by 2005, about 54,000 students would be enrolled at the kindergarten level. If the same participation rate is applied to pre-school education for three and four-year olds, the potential level of enrolment would be nearly 51,000 in 1980 and about 111,000 in 2005.

University Enrolments

The Province of Alberta experienced a five-fold increase in University enrolment from fewer than 6,000 in 1959 to more than 26,000 full-time students in 1969. At the same time, part-time enrolment increased from fewer than 4,000 to nearly 14,000 students. By 1980 the medium estimate of the Universities' Commission projects a full-time enrolment at Alberta Universities of more than 58,000 students. Of this total, more than 8,000 will be at the graduate level. The increase in University enrolment is based on population projections and an increase in the participation rate of the 18-24 age group in Universities to 21.5 percent in 1980. This participation rate is below that projected by the Economic Council of Canada study.

Beyond 1980, I assume that the participation rate of the 18-24 age group in Provincial Universities will continue to increase beyond the 21.5 percent figure postulated for 1980. Despite this increase in participation rates, however, the enrolment increase in Alberta Universities between 1980 and 1990 will be small because of the age distribution of population and the smaller output of secondary schools. During the decade, as the participation rate increases from about 21.5 to about 25.6 percent of the 18-24 age group, full-time enrolment at Universities will increase by only 4,000 to a level of about 63,000. Beyond 1990, full-time enrolment at Universities will increase dramatically primarily because of the size of the 18-24 population and secondarily because of assumed increases in the participation rate. By 2005, the effective participation rate of full-time university students is estimated to reach about 34.4 percent, less than that implied by the Economic Council of Canada study.

Given these population and participation rate assumptions, full-time enrolment in Alberta Universities in 2005 should approximate 121,000. Of this total, more than 88,000 will be undergraduate and nearly 33,000 graduate students. Graduate enrolment is expected to increase significantly as a percentage of total enrolment because the participation rate will increase more rapidly at the graduate than at the undergraduate level.

Post-Secondary, Non-University Education

Educational opportunity beyond high school but separate from the university system has become an important ingredient of educational progress in Alberta. From the 1600 students enrolled in 1951, full-time enrolment at post-secondary, non-university institutions increased continuously throughout the 1950's and 1960's. By the 1967-68 school year, full-time enrolment had reached a level of nearly 7,000 students.

I concur with the prediction of the Economic Council of Canada study that non-university post-secondary enrolments will continue to increase at a faster rate than university enrolments during the next decade. By 1980, full-time enrolment at post-secondary, non-university institutions should increase to about 47 percent of full-time enrolment at universities, according to the Economic Council of Canada study. This projection appears to be consistent with increasing concern in Alberta for technical and vocational education outside universities. If this proves to be the case, post-secondary, non-university enrolment at vocational institutes, junior colleges, agricultural colleges, etc., should approximate 27,600 full-time students by 1980. This represents about 10 percent of the 18-24 age group.

Beyond 1980, I expect the Province will find its optimal educational mix to involve a fairly constant relationship between university and non-university, post-secondary enrolment. The needs of an increasingly technological economic process will require greater educational attainment at both the university and non-university, post-secondary level. For purposes of this analysis, then, I have projected full-time, non-university, post-secondary enrolments at a constant 47 percent of university full-time enrolment. If this assumption is borne out, full-time enrolment at non-university, post-secondary institutions will swell to nearly 57,000 students by 2005.

The participation rate for this group of students as a percentage of the 18-24 age group will be a little more than 16 percent. This, combined with the 34 percent participation rate projected for university enrolment, means that more than 50 percent of 18-24 year olds will be full-time students in 2005. Given the nature of society at the Centennial year, and given the level of total and per capita incomes to be discussed shortly, this in all liklihood will turn out to be a conservative estimate.

Personal Income in Alberta, 1980 and 2005

Personal income may be thought of as the flow of income accruing to households from which personal consumption expenditures, personal tax and social insurance contributions and personal savings are made. The level of personal income accruing to residents of Alberta has demonstrated a lively growth rate in recent years, increasing at an average rate of about 5.3 percent per year in real terms. In 1970 the estimated level of personal income is in the neighborhood of $4,600,000,000. This measure is in current, rather than constant, dollars and the average rate of price inflation during the period from 1957 to 1969 was more than two percent per year.

In 1950, per capita personal income in 1950 dollars was a little more than $1,000. By 1960, in 1960 dollar terms, per capita personal income was slightly in excess of $1,600. In 1970 it is estimated that per capita personal income in the Province is about $2,900 in current dollars. The rapid increase in recent years is explained by a slight acceleration in the rate of real growth and a rapidly rising price level since 1966.

I have chosen to project the economic growth rate at a conservative five percent in real terms beyond 1970. At the same time, I assume a price inflator of 2 1/2 percentage points per year. I have no real mis-givings about the ability of the Provincial economy to continue to grow at a rate slightly in excess of five percent per year. But in using personal income data as a basis for projecting revenue flows to the Provincial Government, wisdom lies perhaps in the direction of conservative estimates.

Based on this set of assumptions, it is likely that the level of Provincial personal income will approach $9 billion in 1980, in current dollar terms. The corresponding figure for per capita personal income is nearly $4,600, again in 1980 dollars rather than constant dollars. If the average family size in Alberta in 1980 is about four, then we are talking about average family income of more than $18,000. If this sounds overly optimistic, may I remind you that the projected growth rate in personal income is less than the realized growth rate of recent years.

Before projecting beyond the year 1980, it may be useful to pause for a moment from the discussion of data to focus on the basic determinants of the rate of economic growth in the Province. A geographic region such as Alberta attains a high rate of economic growth by virtue of its ability to develop a set of basic industrial sectors which satisfy export demand for goods and services. In the case of Alberta, these basic sectors center around the extraction and processing of mineral resources, the growth and harvesting of agricultural products, the manufacture of intermediate and final goods, and the provision of a continuing set of goods and services for sale to tourists from outside the Province. Growing up around these basic sectors is another set of industrial and commercial activities which provide a basic set of supporting activities and many of the amenities of economic life. At some point in the development process, regional growth centers such as Edmonton and Calgary begin to achieve an internal growth force that makes it possible for a whole set of business activities such as construction, manufacturing, and professional services to expand their production processes by replacing imports as a source of strategic supplies. Economists often refer to this phenomenon as the agglomeration effect.

Continued economic growth in Alberta, it seems to me, will be determined by the ability of business firms to apply an increasingly complex technology to the resource base which gives the Province a real comparative advantage in the production of a basic set of goods and services, ranging from mineral products to tourist services. In fact, it is this application of technological know-how that explains a large part of economic growth, according to most studies in Canada and the United States.

The significance of this growth process is that the five percent growth rate I have projected will be dependent upon the ability of the Province to continue a high level of export activity, such as coal to Japan, natural gas to the United States and petroleum to other Provinces. Ghost towns in Canada and throughout the world offer convincing evidence of what happens to economic growth in a community when a resource is exhausted or when export demand for that resource terminates.

Thus, the assumption that needs to be made explicit is that the Province will continue to take full advantage of those export markets for crude petroleum, natural gas, agricultural products, etc., that exist now and in the future. The attendant assumption is that the Province will resist the advice to preserve, for example, its crude oil and natural gas for possible local use at some indeterminate date in the future. The real cost of this kind of waiting game is continued growth in total and per capita personal income.

Given a five percent growth rate, we are talking in 1990 about a personal income level in 1990 dollars of nearly $17 billion. If real income increases at five percent per year and population at less than two percent per year, the per capita personal income level in 1990 dollars should approximate $7,000 or nearly $30,000 per family. Again, if this seems unduly optimistic, I remind you that it envisages an economic growth rate less than that which has prevailed in recent years.

Finally, to end this assault on your credibility limits, envision a personal income level of about $42 billion in the year 2005. This

Provincial personal income divided by more than three million Alberta residents would entail a per capita personal income of nearly $14,000 in current dollars. I leave it to your imagination to calculate average family income in such economic circumstances.

Provincial Government Revenues, 1980

Based upon a set of economic growth factors supplied to them, the Bureau of the Budget of the Alberta Treasury Department has provided me with a set of estimates of total and specific revenue flows to the Provincial Government. By way of background, Provincial Government revenues totalled $260 million in fiscal 1957. By fiscal 1968 this revenue total, according to the Dominion Bureau of Statistics, had increased 213 percent to $813 million. During this same time period personal income increased about 167 percent.

Based upon specified assumptions about tax elasticities and the existing tax system, Provincial Government revenues by 1980 should approximate $2,082,000,000. Of this total $497 million would derive from personal income taxes; $155 million from corporate income taxes; and about $651 million from oil and natural gas royalties, bonuses, etc. The $2 billion does not include grants from the Federal Government.

Allocation of Provincial Government Revenues, 1980

As a guideline for the allocation of Provincial revenues in 1980, it may be instructive to look at the relationship between these revenues and educational expenditures in 1968. According to data provided by the Dominion Bureau of Statistics, Provincial Government revenues in 1968 totalled $812,900,000. Of this total, total Provincial Government expenditures for all levels of education claimed about $261 million according to Professor Eric Hanson of the University of Alberta, who has done a continuing series of studies on educational costs in the Province. This education expenditure represented about 32 percent of Provincial Government revenues that year. According to Professor Hanson's data, this expenditure by the Provincial Government was about 6.8 percent of Provincial personal income in 1968. Total expenditures for education were about $530 million, of which $187 million was contributed by local government, $53 million by Federal Government and $29 million came from other sources, including student fees and donations.

In this position paper for the Commission, Professors Hanson and Atherton estimated that educational costs of the Province would be about $1 1/2 billion by 1981 at the minimum with probable need in the area of $2 billion. How does the existing revenue system relate to these potential needs?

In 1980, I estimate that Alberta personal income in 1980 dollars will approximate $8,954,000,000. This assumes a five percent real growth rate and a price inflator of 2 1/2 percentage points per year throughout the period. If the Provincial Government were to decide to continue to spend in 1980 the same percentage of personal income for education that it spent in 1968, its total educational expenditure would approximate $609 million. If local government were to continue to allocate 4.9 percent of Provincial personal income to education, an additional $438 million would be forthcoming. Simultaneously, if the Federal Government continued to contribute about 12 percent of the Provincial and local government educational costs, another $126 million would be available. Finally, if miscellaneous other sources still represented about six percent of expenditures by Provincial and local governments, another $62 million would be forthcoming. These sources would thus finance a total expenditure of education of about $1,236,000,000, considerably less than Professor Hanson's estimated costs.

Professor Hanson has noted, however, a propensity for the Province to allocate an increasingly large share of its personal income to education. From 1960 to 1968, for example, the percentage of Provincial personal income devoted to educational expenditure by the Provincial Government increased from 4.2 to 6.9 percent. If the Provincial Government and the taxpayers look with continued favor at the need for higher quality education, it is not inconceivable that by 1980 about 10 percent of Provincial personal income might be allocated to educational activities by the Provincial Government. In this case, Provincial Government spending for education would amount to about $895 million, an increase of about $286 million. If local government continued to support education in the amount of 4.9 percent of personal income, and if Federal and miscellaneous revenue remained 12 and 6 percent, respectively, of Provincial and local government spending, then total spending on education would rise to about $1,575,000,000.

In this case, education would account for about 43 percent of Provincial Government revenues, contrasted to the approximately 32 percent now so allocated. Alternative to a reallocation of existing revenues to education from other Provincial Government functions, of course, is a change in the tax structure permissive of an increase in Provincial Government revenues of about $300 million. If a tax increase of this amount were used for educational spending by the Provincial Government, total educational expenditures would then exceed the $1 1/2 billion level.

This obviously is a delicate area and the following analysis makes no judgment pursuant to the desirability of tax increases for educational spending. It has been necessary, however, to postulate certain changes in the tax structure to test their impact on revenue totals. For example, an increase of five points in the personal income tax, operative in 1980, would probably yield about $75 million in extra Provincial Government revenue, according to analysis provided by the Bureau of the Budget of the Provincial Treasury Department. On the other hand, a five percent general retail sales tax, food and drugs exempted, would yield about $278 million in 1980. Both changes in tax structure, then, would yield more than $350 million in incremental revenues.

The Cost of Education

I have approached the problem of allocating public revenues to education thus far according to the budgeting model of cost-effectiveness. Under this system of allocating public sector revenues, a given activity is allocated so many dollars and seeks to maximize the flow of outputs, benefits, etc., available from that revenue-expenditure level. As an alternative to this technique, I now estimate the total costs of education by 1980 under various assumptions about educational costs in light of postulated enrolment figures.

According to studies performed by Professor Hanson, the expenditure per student in elementary and secondary education in 1968-69 was about $650. This was referred to as operating expenditure but included a debt service charge on funds borrowed for capital spending. Thus, it approximates the annual average total financial cost of elementary and secondary schooling for that year. That is, total operating expenditures for elementary and secondary schools includes about $90 million in debt service charge for 1980. An alternative way of considering total expenditures would be to add the $200 million of capital expenditures estimated by Professor Hanson to occur in 1980 to the total operating expenditures considered here. In this instance, the funds borrowed for capital construction would be included in total expenditures, as well as the service charge on debenture debt. In my first report to the Commission, I will provide these alternative methods of calculating total spending for education.

For 1981-82, Professor Hanson estimates a cost per student of $1870, an increase in per student costs per year of about nine percent. As a starting point in cost estimates, I will assume a lower rate of growth in cost per student to a doubling of per student costs by 1980-81, to about $1300 per student. In this case, costs are increasing a little less than six percent per year per student. In this event, an elementary and secondary enrolment of 415,000 students would generate total costs of about $540 million in 1980-81. A higher estimate, derived from Hanson's $1870 estimate for 1981-82 and rounded to $1800 for the previous year, yields a total cost at this level of about $750 million.

Total operating expenditures for Universities in 1968-69 calculated in terms of expenditures per full-time student were about $2800 per year. This figure relates to total operating expenditures and thus includes expenditures designed to accommodate part-time as well as full-time students. Capital expenditures during the five year period ending in 1968-69 averaged about $35 million per year.

Following the procedures used in estimating the costs of primary and secondary education, I assume in the first instance that operating expenditures per full-time student will double for the University system by 1980-81. Thus, operating expenditure per full-time student will be about $5600 per year. This rate of increase approximates the experience of the last few years, in which operating expenditures per student have tended to increase about $200 per year. If, by 1980-81, there are about 58,000 full-time students in Provincial Universities, and the cost per full-time student is about $5600, then total operating costs will approximate $325 million. This will represent my low estimate for operating costs for 1980-81. On the capital costs side of the ledger, the low estimate will be based upon a doubling of capital expenditures from the 1964-69 average of $36 million to a level of $72 million in 1980-81. Capital costs for post-secondary education, unlike public schools, are financed from current revenues rather than from borrowing. Thus the actual capital expenditure is used here, since there is no debt service charge.

The actual ratio of operating to capital costs was less than two to one in 1968-69, about $64 million in operating costs to $36 million average capital costs for the five year period ending in 1969. In fact, the annual operating expenditures from 1964 to 1969 were about $41 million compared to the average annual capital expenditures of about $36 million. Even a two to one ratio of operating to capital costs in a period of rapid growth seems conservative. Thus, the ratio of operating to capital costs has risen from an actual ratio of less than two to one to a hypothetical ratio of more than four to one in this low estimate. This ratio was established arbitrarily, not as a deliberate attempt to intimidate University space planners.

The high estimate for University operating costs in 1980-81 is derived in the same way that the high estimate of total costs was derived for elementary and secondary education. That is, costs per student between 1968-69 and 1980-81 are assumed to nearly triple. For Alberta Universities, this would mean an operating expenditure per student of about $8,000. With an estimated University enrolment of 58,000 students, total operating costs would then run to $464 million. The second element of the high estimate for University costs in 1980-81 is capital expenditures which represents 50 percent of operating costs. For 1980-81, this figure would be $233 million, half the operating expenditure of $465 million. Total University spending in this high estimate would then be nearly $700 million.

Post-secondary, non-university education represents an increasingly important component of the educational structure in Alberta. This activity includes all post-secondary education outside the universities, such as junior colleges, vocational and technical institutes, agricultural colleges, etc. Within the next ten years, I assume that this component of post-secondary education will increase relative to university education, with an estimated enrolment of full-time students of about 28,000 by 1980. Cost data on full-time enrolment are difficult to measure because so much of the current activity represents part-time enrolment. Nonetheless, such cost data as I have been able to find are not inconsistent with the hypothesis that it costs the Province about half as much per student in operating expenditures for a non-university student as it does for a university student. This is the assumption I build into cost projections for non-university, post-secondary education. Thus, a low estimate for these costs in 1980 includes a $2800 per student operational expenditure, one-half the estimated low cost for university students in that year. With an expected enrolment of about 28,000, this would mean a total operational cost of about $80 million. Capital expenditures in this low estimate are assumed to be one-half the capital expenditures in the low estimate for university capital costs, since the student population is nearly half the university student population. This would entail capital expenditures of about $35 million.

The high estimate of operating costs of post-secondary, non-university institutions is based on a full-time student expenditure of $4,000, again one-half the high estimate for full-time university operating costs. Based on this assumption, the operating costs of 28,000 full-time students would approximate $112 million. Correspondingly, the high estimate assumes a two to one ratio between operating and capital costs and therefore a capital expenditure of $56 million.

For post-secondary, non-university institutions, then, the more conservative approach yields a total cost estimate of about $115 million in 1980; the less conservative approach yields a total cost estimate of nearly $170 million.

Total Costs of Education, 1980-81

The following table summarizes educational costs for Alberta in 1980 given the two sets of assumptions discussed above.

	Low Estimate			High Estimate		
	Operating Costs	Capital Costs (in millions)	Total	Operating Costs	Capital Costs (in millions)	Total
Primary and Secondary	$540	-	$ 540	$ 750	-	$ 750
University	$325	$ 70	$ 395	$ 464	$ 233	$ 697
Post-Secondary, non-university	$ 80	$ 35	$ 115	$ 112	$ 56	$ 168
	$945	$105	$1,050	$1,326	$ 289	$ 1,615

Total costs under the more conservative assumptions come to $1,050,000,000. Total costs under the less conservative assumptions are $1,616,000,000. Note that these figures include only the debt service charge on capital expenditures for elementary and secondary education. If funds borrowed for capital construction were included, the total spending could be increased up to $200 million for both the low and high estimates.

The low cost estimates, related back to our previous discussion of personal income allocated to education, do not suggest serious financial difficulties in meeting educational cost requirements, given the continuation of existing education systems. It will be recalled that the Province will have some $1,236,000,000 available for education spending, under the set of assumptions discussed previously under cost-effectiveness analysis. The most important assumptions relate to the projected level of personal income and the Province's propensity to allocate about 6.8 percent of this personal income to education through Provincial Government spending; 4.9 percent through local government spending; and continued Federal and miscellaneous contributions amounting to 12 and 6 percent of educational spending, respectively.

There is little in the history of the Province to suggest that it will deny at least this percentage of personal income to educational activity. In fact, as noted previously, there has been a consistent propensity to increase the share of personal income allocated to educational activities. This being the case, it may be feasible by 1980, under the foregoing set of assumptions, to contemplate a pre-school and kindergarten activity with enrolment levels as discussed previously. Under the assumption of similar costs for pre-school and kindergarten as for other primary and secondary education, in 1980 a pre-school activity for three and four-year olds based on the low cost estimates would cost about $65 million; a kindergarten system for five year olds would cost about $33 million. Thus, both forms of pre-school would be available at a total annual cost of about $100 million. At the higher estimated cost levels, the corresponding figures would be about $94 million, $47 million and $141 million.

On the other hand, if the high estimates made previously turn out to be a better guide to educational costs, the $1,616,000,000 total expenditure would be beyond the estimated capacity of the Province, without specified changes in the Provincial revenue structure. As projected, at existing rates of personal income allocations to education, a gap of about $300 million would exist. This gap would yield, of course, to increases in the tax structure, as mentioned before. On the other hand, the obvious variable that I haven't discussed in any detail to this point could also close the hiatus between the higher estimate of total costs and projected revenue flows. This revenue variable, of course, is intergovernmental grants from the Federal Government to Provincial Government. With the basic changes in Federal grants that came into existence in 1967-68, for example, the Federal Government has minimized its directed payments to universities and reimbursed the Province for up to 50 percent of the cost of approved operating expenditures for post-secondary education. The impact of this change upon educational costs in the Province becomes a vital part of any discussion of educational finance in the future. If this practice were continued at the 50 percent level to 1980, then we are talking about Federal contributions of more than $200 million, even under the lower estimates of educational costs and Federal grants approaching $300 million under the higher estimates. Of course, these Federal grants to the Province are included in the Provincial grants to higher education. Thus, it is important not to become confused by double counting Federal grants as Federal expenditures and also as Provincial expenditures. What I am saying is that it is vital that the Province retain the existing Federal grants for post-secondary education and seek to expand this source of funds for operating expenditures. Moreover, if Federal matching grants were available for capital as well as operating expenditures, then additional Federal funds amounting to somewhere between $50 and $150 million would be forthcoming, according to estimated levels of capital expenditures.

One of the possible hypotheses to be drawn from this analysis is that there is an excellent chance that the lower educational cost estimates discussed here are within the grasp of the Province, with no major change in tax structure. This hypothesis, in turn, is based upon two major premises: (1) that Federal grants for post-secondary education will continue to expand as suggested by the changes enacted in 1967; and (2) that Provincial revenues from oil and gas activity on Crown lands continue to expand as projected by the Bureau of the Budget. Any tendency that violates these two premises is likely to require a set of difficult choices for the Province. The choices will relate to increasing Provincial taxes on the one hand or compromising the quality of educational services on the other.

On the other hand, if the higher estimates of educational costs come to pass, there is reason to believe that increasing Federal grants and oil and gas revenues may not be sufficient to meet these requirements. Should costs far exceed $1.3 billion by 1980, then an upward change in personal income tax rates or the imposition of a general retail sales tax might be required to meet financial obligations.

Educational Costs, Personal Income, and Provincial Government Revenues, 2005

Next, let us look briefly at the potential relationships among the costs of education, total personal income in the Province, and Provincial Government revenues in 2005.

I proceed initially this time on the basis of projected costs. If we take the low estimate of educational costs in 1980 and project costs per student to increase at a rate of three percent a year, the total cost of education in 2005 without any pre-school or kindergarten activity would be about $3,834,000,000. This assumes the enrolment projections discussed before, and an operating-capital cost ratio of four to one at all post-secondary institutions. This figure of nearly $4 billion represents only 9.1 percent of projected total personal income in the Province in 2005 of $42,054,000,000. This contrasts to the 13.8 percent of total personal income allocated to education in Alberta in 1968.

If kindergarten facilities for five-year olds and pre-school activities for three and four-year olds are included in the cost estimates, then a total expenditure of about $4,279,000,000 would be required. This represents 10.2 percent of projected personal income in the Province.

Alternatively, if we take the low total cost estimate for 1980 and project it to increase at a rate of five percent per year per student, then by 2005 total educational costs without kindergarten and pre-school would approximate $6,230,000,000 or about 14.8 percent of projected personal income. With pre-school and kindergarten added, total costs would be nearly $7 billion or about 16.5 percent of projected personal income.

Projecting the high cost estimates for 1980 to increase three percent per year per student yields a total educational cost of just over $6 billion, without kindergarten and pre-school. This estimate assumes an operating-capital ratio for post-secondary institutions of two to one. Total costs in this estimate for 2005 are close to the percentage of personal income allocated to education in 1968. Adding pre-school and kindergarten activities would boost total costs to about $6,700,000,000 or 16 percent of personal income.

Only when the high cost estimates for 1980 are projected to increase at a rate of five percent per year per student do potential educational costs grossly exceed current allocations of personal income to educational activities. Without pre-school and kindergarten facilities, the 1980 high cost estimate projected at the five percent level would require 23.5 percent of personal income and with pre-school and kindergarten, about 26 percent of personal income. Again, these high and low cost estimates include only the debt service charge on capital expenditures for elementary and secondary education. If capital expenditures from borrowed funds approximate, say, $400 to $500 million in 2005, this amount would be added to total educational costs if funds borrowed for capital expenditures plus debt service charges are considered to be a better indicator of total costs. The choice of methods will depend on the nature of the problem being discussed. This choice will not significantly alter the thesis developed here that the Province's personal income appears to be large enough and capable of a growth rate that will accommodate considerable expansion of educational institutions and services without creating significant financial hardship. This thesis is valid, however, only under the two assumptions noted before: (1) that Federal grants for post-secondary education are increased, for example to help finance capital construction; and (2) that oil and gas revenues continue to increase. Should either of these sources falter, then the Province will have difficulty funding its educational system without a tax increase. I am suggesting that there seems to be no crisis in educational finance, but that such a crisis could develop if Federal grants and oil and gas revenues do not increase significantly in years ahead.

If such increases do not occur, the Province will be forced to consider the desirability of tax increases. An additional source of income which I haven't mentioned to this point is an increase in student fees at the post-secondary level. The basic justification for larger student fees is the sizeable increase in individual earning power and income generated by post-secondary education. Should such a fee increase be found necessary, a large Provincial loan fund would need to be established to guard against the danger of excluding low and middle income groups from post-secondary education.

Summary and Conclusions

Some observers will look with disfavor upon the optimistic projections, estimates and forecasts made in this study. With regard to the fundamental variables of potential income and product, the projected levels of activity indeed suggest a bright future. The projections suggest, in fact, that the Province is on the threshold of sustaining a level of economic performance that is permissive of significant changes in the quality of life--from the offering of improved educational opportunities to the economically underprivileged, for example, to improved systems of environmental quality control.

More specifically, as a point of departure for extended discussion in the matter of the quality of educational services, I have suggested, at least implicitly, that the future levels of Provincial personal income are permissive of significant improvements in educational facilities and opportunities without serious financial hardship. It is at least possible that the Province will be able to fund its increasing educational requirements, including kindergarten and pre-school, without (1) significant upward shifts in the percentage of personal income allocated to education and (2) without compromising the quality of other governmental programs outside the area of education. Once more, two fundamental variables that affect this project relate to Provincial Government income from oil and gas activity and continued and increasing Federal government cost-sharing grants.

The projected data suggest that the Province can accommodate large changes in the size of the educational system without compromising the quality of that effort. If costs per student increase no more than about five percent per year during the forecast period, educational quality can be improved and the allocation of personal income to education not significantly increased. A cost increase of five percent per year per student, for example, would be more than three times the rate of inflation built into the income and output projections. Thus, a five percent rate of cost increase would envisage a cost-of-living escalator of about 1 1/2 percent per student per year and a quality factor of about 3 1/2 percent per student per year. If the rate of inflation turns out to be greater than 2 1/2 percentage points, or about 1 1/2 percent per year over the next 35 years, then the rate of cost increase per student per year would also be correspondingly increased. This, of course, would cause no problem since income, output and revenue levels would escalate accordingly.

I am not suggesting, of course, that three or five or seven percent represents the correct rate of increase in costs per student per year. And this brings me to my final point. As a student of public finance I would be doing the Commission a disservive if I did not remind it of the recent developments in operational theories of public spending. I refer to systems analysis of public expenditures, commonly known as planning-programming-budgeting systems. This operational method of deciding the appropriate level and composition of public spending seeks to integrate planning, budgeting and management systems in government. As such it requires careful analysis of program objectives, program alternatives and program evaluation. It encompasses such techniques as benefit-cost and cost-effectiveness analysis. I commend it to your attention and to the attention of the Commission as a significant breakthrough in the development of an operational theory of government decision-making.

THE NEEDS OF INDIVIDUALS

by

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I don't suppose that I encountered more than the usual range of problems as I prepared this paper. In any case I don't plan to bore you with them -- unduly. But it may be helpful to you in interpreting my talk (and to me in presenting it) if I say a few words about these problems as I begin.

Those of you who know me may find it more than a little incongruous to see my name associated with a conference on the future. I have no real sophistication in this field. In fact -- if I may be so candid with you -- I confess that I don't have even the normal kind of horse sense when it comes to guessing how things are going to turn out. When I arrive at the bank with the rest of the crowd at the end of the month, I'm usually wrong about which of the several waiting-lines I ought to join. There they are -- five tellers and five queues. I choose the one that looks most mobile, with only three persons ahead of me, but it turns out that at least one of them has a problem that sends the teller shuttling repeatedly back and forth between the cage and what is presumably a records section so remote that I can't even see her most of the time. All movement ceases in my queue. Meanwhile all the other tellers are simply machining them through. The chap that used to be eight places back in the adjoining queue has long since finished his business, got his money, and gone happily away to spend it.

I should stay away from banks. A couple of years ago, for the first time in my life, I had a thousand dollars to invest, and at my banker's urging put it (of all things) into mutual funds. You know what happened to them. And when the value had dropped by four hundred dollars or so, they declared a ten-dollar dividend and I got nicked for income tax.

Well, all this, I'm afraid, doesn't augur too well for anything I may be able to do for you this morning. What may save you is that I'm not of course trying my hand at futures as such, but at some of their educational implications.

As your program indicates, I have been asked to concern myself with the needs of individuals. Let me look in a preliminary way at the two substantives in the title. And let me declare at the outset that I have neither the time nor the scholarship to undertake any exhaustive survey of needs as these are discussed and classified by psychologists, anthropologists, and others. Neither do I think that I can distinguish, except in a homespun kind of way, between a need and a want. It was this problem that greatly concerned educators in the earlier years of our century, and that led them to talk about felt needs as at least potentially different from the unqualified kind. Although they were scolded for this by the linguistic purists (who were disposed to argue that a need is a need is a need), generally they made their point. The story is told of the eligible bachelor who was deemed by his community (and particularly by the matrons and their daughters in this community) to be greatly in need of marriage to a good woman who would love and care for him, but who was himself incapable of diagnosing his case in any such fashion.

As I've said -- I know of no scheme whereby I could distinguish finally between a want and a need. Increasing intensity would seem, in a general way, to bring a want closer to a need. So also would increasing social consensus. But this raises a question about the significance of the term *individuals*, in the title, and so opens the whole thing up again. If we think of individuals simply *as* individuals, that is one thing. If we think of them as individuals in society, or in a particular kind of society, it is quite another.

In order to provide a common starting point and direction, I am going to give the title something of a twist -- focusing on those needs that seem especially relevant to *autonomous* individuals (self-directing, self-determining individuals) on the assumption that these are indeed the kind we want in a *democratic* society. To put the matter another way, I am assuming -- not, I think, very daringly nor originally -- that in our kind of society the state exists to serve the individual rather than the other way round. If I am wrong about this my error will, I'm sure, become very quickly apparent in the discussion which follows this talk.

Meanwhile please do think of my title as "Educating Autonomous Individuals" rather than "The Needs of Individuals," as stated in the title. To me, one of the most interesting results of the conference will be the degree to which these are found to mean the same thing.

Now let's come at the question of categories. There are a number of possibilities, all of them logical and compelling. We could, for example, following Malinowski in anthropological terms, recognize broad specifications of cultural need. Or we could, following Spencer, in more specifically educational terms, talk about such things as survival, child rearing, political relations, leisure and recreation. Although these will come rather close to my organization, I'm going to take my cues mostly from Dyck and Seastone because they have formed the basis of our discussions at this conference.

Obviously I must be highly selective. We have a problem of time, and not everything that we have talked about has equal implications for the needs of individuals. Basic survival needs, for example (food, clothing, and shelter), are initially outside the direct control of the school. This is not to say that they have no impact on educability: proper nourishment is known to affect the intellectual potential of the child, and the quality of human warmth deriving from the mother and the home may be critically related to his emotional and intellectual development.

Well, my categories, for what they are worth: 1. existential (by which I mean to refer to such things as personal identity, recognition, security and esteem), 2. vocational, 3. leisure and recreational, 4. intellectual, and 5. evaluative (particularly with reference to social, moral and spiritual concerns).

It will be apparent to you already, and increasingly during the course of what I have to say in the next half hour, that these categories are highly related -- so much so that at one point in my preparation I questioned whether I could in fact separate them. But for discussion purposes it does seem necessary to distinguish major emphases.

Now, how to deal with these categories? With respect to each item I intend to be analytical, or comparative, or persuasive -- as my knowledge or lack of it, or as my convictions or lack of them, dictate. My treatment of one item may therefore be rather different from that of another. In this way, where I am unable to contribute much to your information, I may at least be able to provoke your approval or your disapproval, as the case may be. In the process I will, of course, inevitably expose some of my own value preferences.

. . . .

Existential Needs

Family life, we are told, is less integrative than it once was, and the trend may well continue. At the same time, it is said, schools and universities have become more and more impersonal -- because of the size of these institutions, because of their failure to address themselves to human problems, because of their insensitivity to student reactions and ideas, and because (at the university level) of the primary interest of staff members in research rather than in teaching.

At the same time, so we are reminded, students are faced with the problem of growing up and of trying to survive in a frightening world not of their own making -- a world in which various kinds of catastrophe are genuinely impending (poverty, pollution, atomic war), the intolerability of which seems not to be recognized by great numbers of their seniors, the so-called "establishment." There is said to be a crucial gap between the protestations of this establishment and their actions, or lack of actions. Add to all this the normal problems of growing up, of coming to terms with a rapidly changing physical and social environment, of developing some satisfactory kind of value system, and in due course of making vocational and other personal preparations and decisions -- and many students find themselves frustrated, insecure, lacking in confidence and moral self-esteem. This leads in some to a sense of alienation and to periods of depression so acute that mental health is endangered, and in extreme cases to suicidal tendencies and even suicidal acts.

By existential needs, then, I refer to a sense of identity, human warmth, emotional security and moral self-esteem.

Is this all too soft? One way of reacting to it is to say, in a sense -- OK, so what's new? The process of growing up has probably always been a rather shattering one -- compounded of ineffable joys and sorrows related in one way or another to such diverse matters as learning to breathe, starting to school, preparing for a job, falling in love, falling out of love, etc. So the family isn't the source of security it once was! And so educational institutions are large and impersonal -- with teachers neither as warm nor as understanding as we might like them! Life itself is frustrating and bewildering -- but not only for the young. It holds problems for everyone, young and old, and the problems faced by adults are tougher than young people have any idea of. The way to deal with all this, it follows, is not to go about snivelling and crying for affection and sympathy, but to face the problems bravely, to play the game, to learn and to do what one has to, and in due course to become a man -- or a woman. There are some who react even more sternly than I have suggested -- insisting on the value of hard knocks, of restrictive discipline, of submissiveness, and even of physical harshness and punishment as the means of making a man.

How do you react to the two positions? Except to dissociate myself from the "hair shirt" philosophy, I'm not at the moment so much interested in trying to adjudicate the matter as in observing that however we compare the rigours of growing up and of surviving existentially in different eras we had better do those things that bid fair to help us grow up and survive optimally in the rest of this century and beyond. Can we make a case for more human sensitivity and warmth than now pertains in our educational institutions, or has pertained in the past?

These qualities, it seems to me, need not signify a sloppy kind of sentimentality in our schools and universities. Sensitivity means recognition, awareness, and responsiveness. Recognition has to do with a conception of the student as something more than (to use the English public school term) "a boy," as an individual of unique dignity and worth. Awareness has to do with the kind of questions that the student, sometimes without even being able to verbalize them, is asking about himself and his destiny: "Who am I, and what am I here for?" Responsiveness means doing something about it -- perhaps, in some cases, nothing even overt, but simply an understanding attitude; alternatively it may involve some more active approach through discussion or teaching. (Incidentally, I am assuming that here and throughout my paper the emphasis on individuals implies that they do in fact differ).

Recently the term "humanization" has come into use as a means of suggesting reforms in the climate and operation of our schools. It has been noted that the exact significance of the term is a little difficult to pin down, and the intent of those who use it is certainly much broader than existential. Nevertheless I think that it may point some useful directions in education, and I'll refer to it again at the conclusion of my talk. Meanwhile, and at the risk of dealing in tear-jerkers, I might briefly tell the story of a little girl that I'll call Marion. Near the beginning of the fall term she'd been absent for a couple of weeks with some childhood disease -- measles, mumps, or whatever. During her time at home she'd been anticipating keenly her return to school, and the pleasure of once again being a part of the classroom community. After the first morning back at school her mother asked her, "Well, how did it go? Was Miss Jones glad to see you?" And Marion said, pathetically enough, "I don't know; she didn't say anything."

Human warmth and understanding are, I think, properly referable to college and university settings as well as to those of the schools -- although, of course, with some differences appropriate to older students. And one can't quite so easily generalize about them: their differing backgrounds and experiences over two decades have resulted in a much greater variety of personalities. College and university students do not, as I know them (or as I think I know them) especially want to have their hands held. No doubt a few of them do, just as a few others, loners, appear to shun most human association. But in my experience the majority of them want in one way or another to establish some kind of rapport with their teachers. Almost all of them -- no matter what their faculty -- are interested in questions of human relations and of human destiny not only as it affects them personally but in general.

And they want to think these questions through, and to talk them out with teachers in the context of their courses and elsewhere. Here, of course, existential needs lead on into other needs that I have so far only mentioned -- the next of which on my list is:

Vocational Needs

There can be little doubt about the cruciality, both from the standpoint of the individual and society, of making correct vocational decisions. Or of the need for top-notch counselling services in our schools, colleges, and universities. Or of the need for sensitivity on the part of these institutions to what is wanted by business, industry and the professions, and all the rest of the employers in the world of work. Or of the need for the most up-to-date manpower studies we are capable of, regardless of the extent to which we may or may not try to "steer" young people in terms of these studies. It is clear that imbalance between job opportunities and job aspirations and job preparation profits no one -- neither the individual nor society.

To say all this, however, is not to say that the wants (or needs) of employers should constitute the major determinants of educational programs. I recall the point that man does not live by bread alone, and by inference that society does not flourish by economic welfare alone. Even if it did, we now face difficult and disturbing new problems. Let me detail three of these:

1. People change vocations more frequently than they used to. (A favourite device, in a gathering of this size, is to ask how many of us are now doing what we were initially trained to do). This could

indicate either a lack of job satisfaction, or simply the rapid tempo of business and industrial and professional change.

2. Many young people are simply not "turned on" by the kind of job prospects that used to excite members of the previous generation. Some of them seem not to be excited by any job prospects at all -- preferring instead the call of the open road. The indications here are various: lack of responsibility and initiative, perhaps; alternatively, a rejection of the "establishment" kind of reward and success symbols in the Horatio Alger tradition, and of the options characteristically provided by business, industry, and the organization man. ("The Graduate," as you may remember, in the motion picture of that name, was simply not interested in plastics.) There is implicit in all this a challenge to what has been called the protestant work ethic. I'd like in a moment to look at two controversies related to it. Meanwhile,

3. Many analysts (among them business and industrial and professional men) have begun to express the view that the structure and emphases and indeed the philosophy of our world of work may be greatly in need of modification. For example, at the recent Aspen Conference as James Reston observed it, the participants were "seeing the so-called 'environmental crisis' not only as a physical and technical problem but as one that raises fundamental political, economic and philosophical questions about private and public planning." Another example has to do with the effect of the accidents of circumstance, under a free enterprise economy, on the struggle of unfortunate individuals for a share of the world's good or necessary things, and for the avoidance of the bad. Horatio Alger's chosen boys always won out -- but there were, in fact, a numerically small group of

winners. He had little to say about the losers -- the dull or the inept, or even the simply unlucky. We in the twentieth century are less sure about the operation of free will, of the ability of the individual to control his own destiny and that of those who depend on him. Granted, welfare arrangements in our time give a kind of minimum security that would have looked good a century ago. But our poverty pockets are still with us.

Well, some of these are questions of value, more properly referable to my category five, which I have called _evaluative_. Let me now return, as promised, to a couple of historic controversies more specifically referable to vocations.

The philosophic controversy relates to concepts of _work_ and _play_. One distinction has it that play is pleasant, work unpleasant; that play is agreeable, that work is drudgery. Another distinction has it that play is something we do because we want to (i.e., preferred activity), whereas work is something we do because we have to (i.e., enforced activity). According to this distinction the same activity -- going to school, reading a book or even punching someone in the nose -- can be either work or play depending on whether we want to do it or have to do it. Still another distinction has it that play is something we do for its own end (for itself), whereas work is something we do for an ulterior end (as a means to something else). A game of bridge, then, could be either play or work depending on whether we do it just for the fun of the thing or to get along in the social world; and making love to one's prospective wife could be either work or play depending on whether we do it to get ahead in her father's business or (again) just for the fun of the thing. At this point, of course, it may be important to note that we sometimes do things for mixed motives -- for more than a single reason -- in which case, I suppose, the whole issue is confused. This, unfortunately, is the difficulty with almost all classifications: the items seldom turn out to be completely one thing or another.

The more specifically economic controversy has to do with what have been called "the doctrine of work" and "the doctrine of leisure." The doctrine of leisure assumes that for most of us the conditions of work in our society tend to be rather monotonous and disagreeable, and that the best we can do under the circumstances is to strive for shorter and shorter work hours (which, as you know, we are in fact achieving) so as to have more and more time to get away from it all -- to relax, to forget our work in leisure. The doctrine of work assumes that work for most of us can be made so desirable or exciting that we want to spend, not a mere four or five hours a day at it, but at least a healthy thirty-five or forty hours a week; and that if we don't actually enjoy every moment of it, our pervasive reaction will at least be one of satisfaction. (Incidentally, have you noticed the recent and, I think, interesting experiment across the border with a four-day week of ten working hours a day? It's still a forty-hour week, but with some very real advantages in the circumstances of work and in the longer unbroken period for leisure activities.)

Well, what are we to make of these ideas -- work as opposed to play, and leisure as opposed to work? I personally think that it would be a sad thing both for us as individuals and for our society if work were simply a disagreeable chore to get out of the way as quickly as possible -- if the artist hated his painting, the teacher his teaching, the scientist his research. Of course, it isn't difficult to think of some occupations that seem in a general way to have less appeal than others. It is, I'm afraid, difficult to anticipate much spiritual satisfaction in garbage collecting. But interestingly enough, technology, which has often been charged with stultifying and routinizing work, is not necessarily the villain in this piece. As I watch the newer mechanical trucks (have you seen them?) lifting containerized refuse and depositing it with almost clinical precision into the tank, I think it might even be fun to have a go at the thing myself. But not, of course, for long.

Maybe, for some classes of job, the doctrine of leisure may have to be a partial answer. In general, however, I'd be prepared to defend the proposition that the more of the play spirit in work (i.e., play in the sense of preferred activity) the better for us all.

Sometimes the poets and the mystics have insights that are revealing. I'm indebted to my mother for calling to my attention this passage from Kahlil Gibran, in The Prophet. "Speak to us of work," the ploughman said, "and he answered, saying:

> You work that you may keep pace with
> the earth and the soul of the earth.
> For to be idle is to become a stranger
> unto the seasons, and to step out of life's
> procession, that marches in majesty and
> proud submission towards the infinite.
>
> When you work you are a flute through
> whose heart the whispering of the hours
> turns to music.
> Which of you would be a reed, dumb and
> silent, when all else sings together in unison?

> Always you have been told that work is
> a curse and labour a misfortune.
> But I say unto you that when you work
> you fulfil a part of earth's furthest dream,
> assigned to you when that dream was born,
> And in keeping yourself with labour you
> are in truth loving life,
> And to love life through labour is to be
> intimate with life's inmost secret . . .
>
> You have been told also that life is darkness, and in your weariness you echo what
> was said by the weary.
> And I say that life is indeed darkness
> save where there is urge,
> And all urge is blind save when there is
> knowledge,
> And all knowledge is vain save when
> there is work,
> And all work is empty save when there
> is love:
> And when you work with love you bind
> yourself to yourself, and to one another,
> and to God.

Well, trying to put together this kind of insight and the more factual insights emanating from statistics and the world of work, I find myself searching for ways and means whereby the human and social and spiritual significance of work can be enhanced both on the job and in preparation for it -- i.e., in educational institutions. I don't know enough about the inside operations of business and industry and the professions to say how this can be done, nor indeed if it is being done. I do know enough about public education to suggest that our problems might best be solved by relating vocational education more closely to general education (which I believe is what many employers want), rather than narrowly to matters of vocational training. The Russians have done domething of this kind through what is called polytechnical education, with emphasis on social involvement and the dignity of labour -- but their program fails, it seems to me, because of cast-iron ideologies which in many respects substantially negate the worth and dignity of the individual. I think we can do better, in a more open society, in programs which encourage personal and social commitment along with the development of job skills, and which invite consideration of the ways in which man must work and live in order not merely to survive but to improve the quality of life.

Leisure and Recreational Needs

The most specious beginning to any discussion of these needs is to point to the figures on leisure time. You and I, of course, may have some difficulty in crediting these figures this Saturday morning, when a good many of our friends and colleagues are off skiing or curling or otherwise engaged in pursuits of their own choosing. Nevertheless it *is* true that more and more of us have more and more time for leisure recreation. It is true of all classes and of all age groups -- through the shortening of work days and work weeks, the lengthening of vacations, and earlier retirement. And while birth rates may decline, there will still be a great many older people in our society at least during the latter years of the century.

The primitive approach to all this is, of course, simply to plug the time -- either through direct viewing or through television -- with big league baseball, hockey, football, wrestling, and other forms of gladiatorial combat. On a good many week-ends it seems difficult to find much else, and even while a given game is in progress the screen flashes the scores of games elsewhere -- so that one never needs to be ignorant of how things are going not only in Vancouver and Montreal, but also in

New York, Chicago, and Los Angeles.

Well, what price spectator sports? I confess to watching them from time to time. Feats of physical dexterity, courage and daring can certainly be interesting, even dramatic -- though some of them seem brutalizing. But what I most wonder about is the balance between these and other kinds of activity. And I wonder whether the emphasis would be so predominantly on spectator sports if somewhere along the line of public education more imagination, resources and energy had been devoted to the opening up of other fields that might be equally or even more rewarding.

What other fields?

Obviously those that involve us as participants rather than simply as watchers. Some of these of course have to do with sports. Others have to do with crafts and hobbies. Others have to do with the fine arts. Still others (and here I recall the relationship between work and play) have to do with the projection of vocational interests into recreation. I know of a jet pilot who goes gliding on his days off, and a geologist who goes on field trips during his vacation.

Well, I'm not going to press for priorities here, except (indirectly) to deplore what almost seems to be a pre-emptive emphasis on spectator sports. Calgary and Edmonton have recently fielded championship football teams -- well, almost. But their fine arts centres fold, and their symphonies are in trouble. I wonder how things would have developed if we had done a better job of opening up alternatives in our schools. It has been said that each of us, almost without exception, could profit by the opportunity to select and involve himself in one or more kinds of activity not necessarily nor directly related to his vocation. Education for leisure thus means the opening up or the extension of interests, insights and skills related to self-actualization. Most of us in schools and universities -- yes, and in society at large -- have talked a good line here, especially with respect to the fine arts, but when it has come to the matter of mobilizing the necessary and money and resources we have, with some notable exceptions, simply failed to follow through.

If indeed we are concerned with the quality of life in our society, we may well remind ourselves that the level of achievement in the fine arts has provided, throughout history, a major index of the quality of civilizations. It is even possible to argue, with Franz Cizek, that aesthetics (rather than the 3 R's) might well constitute the starting point of all education. And it could, of course, constitute for many a major part of lifelong education.

Meanwhile, with reference to leisure education generally, we have failed to capitalize even on the present potential of educational institutions by making them freely and continuously accessible to all. Valuable opportunities and resources in the public schools, colleges and universities are characteristically unavailable to those who are not formally registered in these institutions, and indeed often to those who are.

If we value individualism and the individual, I think we must do better here.

Intellectual Needs

The farther I move along into my classification of needs -- coming now to the fourth one which I have called intellectual -- the more I have to emphasize their interrelatedness. There are certainly intellectual components in the existential, vocational, and leisure and recreational needs that I've tried to deal with so far, and in the last one that I'll come to shortly. But what I want to stress here is the satisfaction of what has been called intellectual curiosity, the urge toward knowledge *per se* -- even though we know that strictly speaking no information or knowledge can be divorced from some pragmatic or utilitarian significance (consciously or unconsciously recognized), and that the thing called "disinterested scholarship" is almost a contradiction in terms.

However we regard this matter, we have reason to anticipate a sharp upgrading of values ascribed to the availability of knowledge. And this brings us to the school and its role in the satisfaction of the knowledge need.

This is the school's historic role. How well is it performing today? "Pick a school," wrote Selma Wasserman.

> Almost any school will do. Peer into a classroom of that school. Chances are what you will see is representative of today's teaching: the teacher is standing or sitting in front of the class giving the lesson; the students, at their desks, are poring over the lesson; the object is the transmission of information. Hundreds of hours of teacher time are spent in preparing these lessons; thousands of hours of student time are spent in absorbing these lessons; information is being transmitted at what appears to be a prodigious rate. The name of the game is EDUCATION . . . Wert's research tells us that the rate of retention of this factual information, covered with such confidence by the teacher, committed to memory so assiduously by the learner, and 'put to rest' over a two-month summer holiday, is about 15 per cent.[1]

Is this a travesty on public school education as you know it, or as you think your children experience it? Or does it come rather near the mark? And what about college and university teaching: is it still bound up, almost totally, in lectures?

From personal experience I am able to assert that a lot of good teaching (of a character quite other than the one illustrated) goes on in our school and university classrooms. But apparently not enough. Evidence of dissatisfaction comes to steadily, and from too many sources. "Teaching," say too many students, "turns me off." "What energy it takes," wrote George Leonard, "to make a torrent into a trickle!"[2]

How do we satisfy the intellectual need? Two things seem clear. One, for information, we must develop resources and techniques for individual self-instruction as well as group instruction -- particularly the wealth of media services that are all about us, and that have long been available for educational purposes, although they undoubtedly require further organization and channeling for school purposes. Two, for teaching, we must concurrently free the teacher for those roles which he alone can perform -- organizing, probing, tutoring, encouraging and assessing. We should have learned these lessons long ago -- but we didn't, so terribly strong is practice and tradition. We have something like a last chance (and it may literally be our last chance) to learn them now. "There will," wrote J.R. Gass, Director of OECD, optimistically, "be a trend towards curricula based on the principle of stating questions, organizing knowledge and methods of attacking problems as opposed to the assimilation of specific bodies of knowledge. The corollary of such a trend in curricula will be more flexible methods allowing the individual to develop and adjust his own style and pace of learning, and to generate his own information from the vast resources outside the school."[3]

Whether or not this statement is profound it is, I hope, prophetic. And it raises one more question that we may as well talk about now. This is the question of curriculum control.

Some university students have demanded this. Others would opt for shared control -- directly with the instructor, or indirectly through various kinds and degrees of involvement in department, faculty, or university councils. Still others would settle for what might be called, quite simply, "good teaching" -- which may or may not be regarded as involving some participation in curriculum planning. High school students are, of course, less mature, less experienced, less politically minded -- but don't be surprised if they catch on. As far as I know, we have yet to face a truly politically inspired riot from elementary and kindergarten students (perhaps because we have so few kindergartens).

I promised myself, at the beginning of this talk, that I would avoid the term relevance on the assumption that you had heard enough of it. But the term is too useful. And so I ask who, at any level, is better qualified to talk about the adequacy of curriculum and teaching than the student himself? We may say: your youth and inexperience mislead you, and we may be right. But this judgement may not help the learner as a learner.

The moral of all this, it seems to me (much too simply and much too briefly) is that we need to capitalize on every insight, every reaction, every bit of feed-back that we can get from students. To the extent that this involves student participation in curriculum, I should guess that the result would be better teaching and learning. Better because it is more in accord with the students learning level and power. This is not the same, necessarily, as better from the instructor's point of view. But the student, surely, is the client -- even though it's nice if the instructor can learn something too.

Well, I leave this one with you -- for whatever you want to make of it -- even though its application at given school and university levels is surely a matter which the professional rather than the layman ought to decide. And please note: I haven't argued that the teacher should abdicate a responsible role. I have simply proposed that learning is likely to go better if it is influenced, and substantially influenced, by the ideas and the reactions of the learners.

Evaluative Needs

The final need category, which I have called evaluative, in a very real sense includes all the others. For everything that the human organism does is in one way or another evaluative -- if not at the very moment of doing, at least in later stages, which are consequential, reflective. We are perpetually assessing the results of all our activities -- our search for identity, our job and recreational satisfactions, our gratifications in reasoning and "knowing."

But there are some very special areas in which the individual is practically forced to transcend his own personal sense of gratification or non-gratification. For if he wishes to live in society at all -- and virtually all of us do -- he must assess those transactions which relate him to other individuals, i.e., social transactions. These special areas involve moral values, and include sensitive areas like politics, economics, and religion.

Now the blunt question is: to what extent are we as a society prepared to indulge the individual in his wish, or his want, or his need, to make autonomous evaluations in these areas? In what ways and at what levels?

There are those in our society who hold that the proper assessments have already been made in some ultimate and unchanging way -- through revelation, intuition, logic, or other infallible means: some of them would, if they could, enforce their views on the rest of society. There are others who, while regarding matters of faith and morals as largely open to individual choice in adult society, would ban their study and discussion in educational institutions. There are still others who, while accepting as appropriate such study and discussion in universities, would ban it in the public schools (both elementary and secondary). Finally, there are those who would open up the schools.

I hope that you would join me in denying those who would enforce sectarian views on society. If not, we're in deeper trouble than ever before on the meaning of democracy. No one that I know of has put the matter as squarely as Arthur Murphy, as follows:

> Essential to political democracy is the civil liberty which permits men of various faiths and doctrines to cooperate politically as members of the political community without prejudice to these further faiths and doctrines, whatever they may be, so long as they do not impair the security of the state or infringe on the civil rights of others to a similar immunity. The assumption on which it is based is that political unity is compatible with

> diversity on these further issues, and that it is therefore not the business of the state to impose any such doctrine, e.g., through the public schools, or to exclude others as detrimental to the public welfare.[4]

I hope that you would be equally firm in supporting total openness in university programs. University students are adults -- legally now as well as physically. They have enrolled in the university as a place where they may become mature intellectually. The university (and here I quote from the York Committee) "is a community of faculty and students dedicated to the pursuit of truth and the advancement of knowledge, and a place where there is freedom to learn, freedom to study, freedom to speak . . ." How ridiculous to think that a university can be a university if these freedoms are in any way constrained -- except, of course, by the expectation that they will be exercised with regard for truth and human dignity.

Where we may differ among ourselves this morning is with reference to elementary and secondary school programs. Some of us who support the idea of an open approach to values for adults and older students may argue that students in the schools are too immature to deal with controversial issues. Others may argue that at this stage matters of faith and morals are properly the responsibility of the home and the church. Still others may argue the practical difficulties of dealing with controversial issues in schools: for example, this sort of thing places too great a strain on the maturity or competence of teachers, society wouldn't stand for it, etc.

Let me react to these objections -- first reminding you of my warning, at the beginning of this talk, that I might at some time attempt to be genuinely persuasive. Indeed I intend at this point to take a clear position, and to provoke from you a response of one kind or another.

Those who object to the discussion of controversial issues in elementary and secondary schools generally argue that at these levels students should be _given_ (indoctrinated with) values -- you know, good, conservative, "respectable" values, designed to provide children with initial security and "mooring." Rational discussion and criticism are thus deferred "until the right time," i.e., until the student is mature. _Then_, it is said, he may be as critical as he likes.

Both psychologically and philosophically there is a great deal wrong with this argument. First, _what_ values are to be indoctrinated? Second, _whatever_ values are indoctrinated, the sheer fact of indoctrination in youth is almost bound to inhibit or stultify the critical faculty -- else why indoctrinate? Racial prejudice, for instance, begins early. "You have," so runs the song from _South Pacific_, "to be carefully taught . . ." Generally speaking, if students are too immature to deal with a topic rationally and openly, they are too immature to deal with it at all. Parenthetically, I might add that many controversial issues needn't be here to plague us if we in our perversity hadn't created them. I refer not only to problems of Black and White, but to Protestantism and Catholicism and to a host of other man-made distinctions or divisions that you and I can think of.

William O'Neill put his finger neatly on the psychological point (not unrecognized, I might add, by those who wish to indoctrinate).

> What makes the first learning of a child so exceedingly important is perhaps obvious, for it is precisely the primary encounters of early childhood which give rise to the basic attitudes and values that are destined to be the foundation for the child's character structure. The character is, in turn, the basic factor in determining (1) what situations will be sought and (2) how any situation, once it is encountered, will be perceived and evaluated.[5]

As to the view that matters of faith and morals are properly the responsibility of the home and of the church, I have time only for two brief observations. First, there is in my view no greater immorality than attempting to bind the mind of a child while he is still too young to have a mind of his own. Second, there is in my view no greater selfishness than to insist that the child, in his thought and values as well as in his physical being, be a creature of the parent. I hasten to add, in case it is necessary, that I am not proposing either that the child should be the creature of the school, or that the school should "take over." It simply provides opportunities for the child's own study and evaluation.

There are, of course, practical problems and difficulties associated with the treatment of controversial issues in schools. We have already implied one of these -- the appropriateness of various issues to various school levels. Obviously no profound generalizations about the pill are likely to emerge from kindergarten studies. But this is, of course, a *reductio ad absurdum*. Provided the principle of inquiry proposed for teaching and learning is not compromised by manipulation or concealment of relevant facts and opinions -- i.e., provided the ethos remains open -- the problem can be faced.

Another problem is said to be teacher attitudes and competence. But if society will demand and support liberal-minded teachers (it hasn't always done so) there need be no insuperable problem. Incidentally, in a recent news item it is stated that the Quebec government has appointed Abbé Dion of Laval University, described as a liberal-minded cleric, to head an inquiry into charges that Quebec teachers are indoctrinating youth with political propaganda. I applaud any move to counteract political indoctrination, just as I applaud the increasing liberal-mindedness of churchmen. But who, I wonder, is going to conduct an inquiry into charges that churchmen -- of any faith -- are indoctrinating youth with religious propaganda.

A third problem is method -- or, if you like, procedures. My experience is that good teachers have always known how to help students explore new ideas, and I for one am happy to note that their influence shows through the new Alberta social studies program. Certainly a number of schools in the United Kingdom are not frightened by the idea of controversial issues, and are taking their cues valuably from the Schools Council Nuffield Foundation Humanities Curriculum Project, now in its second year. Their method is the method of inquiry. They have demonstrated that open-minded teachers can create a classroom atmosphere in which students are genuinely able to compare views on a variety of controversial matters -- in politics, in economics, in religion, in other life styles. They have shown that the scholarship of these students is enhanced by this kind of opportunity. And they have shown something else -- that the effectiveness of the program depends on the availability of good and abundant resource materials. Here, I think, is one of the most important cues of all. Let's note, and for goodness' sake let's remember that the teacher need no longer personally present and interpret all information on all sides of all issues. If we will only develop and use them, we have television and all the rest of the mass media whereby spokesmen for various points of view can put them directly to students. How long will it be, I wonder, before we're smart enough to make effective use of them.

Well, to come back to the main point. We are concerned not simply with schooling, but with education -- a search for meaning. What then happens to education if students at any level are indoctrinated with single answers, or if they are prevented from discussing them because they are "controversial." Let me be quite clear: I'm not suggesting that we should seek out controversial issues for their own sake. We have enough of these without beating the bushes for more. The point is simply that we cannot dodge them -- even though we may be unable to solve them -- when they come at us in the context of education. The school that insists, on the one hand, on the primary value of enquiry, and that at the same time deals in indoctrination or avoids controversial issues, is no longer a viable institution. Rapid social change (both on the part of students and of the larger society) will make it even less so, and has already raised in the minds of many critics the question of whether it can or should long survive.

Our schools can survive if society will permit and help them (I emphasize both terms) to be "value open." They cannot, of course, be totally "value neutral": on the physical side, for example, we assume the value of cleanliness; on the intellectual side, of enquiry; on the moral side, of honesty, love, and the worth of the individual. These may or may not be "universals" -- but I think that almost all of us would agree that, along with the general tenets of democracy, they come close enough.

As to the "further faiths and doctrines" -- in order for us to operate as a community we of course need as much consensus as we can get. But the only way in which we can achieve any consensus consistent with the spirit of enquiry, and the flexibility we as a society need to face the future, is through open study and discussion. The alternative -- the domination of our schools by any kind of institutional "party line" backed, now, by new and frightening means of thought control -- is simply too horrible to contemplate.

I've been arguing for increased student self-determination in matters of curriculum, and an open spirit of enquiry so as not to compromise the student's opportunity for self-determination in matters of value judgement. Are these ideas really revolutionary? I don't think so. The autonomy of the individual, his incomparable worth, his right to self-determination -- these are crucial to our Western traditions. Politically they combine to form a cornerstone of Democracy, as opposed to Fascism or Communism. Philosophically they are Kantian (with emphasis on the individual as an end rather than as a means) as opposed to Nietzschean (with emphasis on human expendability). They are certainly "Christian" -- ethically, if not institutionally.

And it's at this point, I suppose, that I should look you directly in the eye and ask you whether you are prepared to sanction these values, so steadily proclaimed in our society, in our schools.

. . . .

Now let me return, in conclusion, to two items that have been implicit, and maybe even explicit in some of the things I've said. One of these is lifelong education. The other is what has been called "humanization."

It is difficult to see how we can maximize the development of autonomous individuals without greatly increasing educational opportunities beyond their present span. One of the important recognitions of the concept of lifelong education is that the early years are the most creative and intellectually productive, with the prospect of a substantial increase in intelligence (as of educational achievement) if the child is reached soon enough: it therefore seems sad not to capitalize on the potential of what is now a "pre-school" age through more concerted planning and organization. Another recognition is the potential of the individual to go on learning long after the end of formal schooling: it therefore seems sad that our total efforts on behalf of what is still called adult education are not much greater than they are. But the main significance of lifelong education is much more crucial than the mere mathematical addition of years to presently organized programs. It involves a totally revised concept of "studentship" -- one which rejects the equation of this with a chronological age range, before and after which the individual is in turn a pre-schooler and then some kind of "graduate" (or "drop-out"). By the same token it rejects the simple equation of studentship with deferment (preparation, memorization, submission) as distinct from gratification (inquiring, exploring, living). It deliberately blurs the dividing lines. It thus contributes dramatically to the continuity and satisfactions of learning, and in its initial phase to the early involvement of the child, in an autonomous way, with values. Toward the other end of the scale it might well be involved with childhood education and indeed public education broadly -- and so complete the circle.

The concept of "humanization" I have referred to briefly under the heading of existential needs and elsewhere. It ought to have had broader reference in the total context of autonomy -- implying as it does a shift from institutional dominance to student needs of all kinds, both individual and social. It owes something basically to John Donne, and the concept that no man is, or should be an island. It says something about Barbara Ward's Space-Ship Earth, about the family of man, and about the recognition that we're in this thing together. It in fact relates what I've been trying to say about the needs of individuals with their social correlatives. It is in many respects not a new concept: the whole of history is one of man's stuggle to achieve some kind of balance between personal and social being. But it acquires a new urgency, despite moon landings and space probes, because our living space and its quality seem suddenly to be more finite than ever before. The frontier days, with all their rugged glamour are really over, and we have no option but to make the most of our common humanity.

Making the most of this humanity is not just a matter of humaneness, although this is a very large part of it. And it's not just an existential matter of human warmth and belonging. It involves our rationality, that we may think clearly together about the human condition. It involves our work and our play, that we may make the most of our lives together. And it involves our values, which give point and direction to all our quests and enterprises.

I am bold enough to think that the kind and quality of public education, if inspired by such a concept and on a lifelong basis, can have a crucial impact on our social future. But we begin with the individual. You will hardly be surprised if, as one who has spent most of his life in the field of teacher education, I focus on the personality of the teacher (I don't mean only the teacher in the school) and its essential characteristic. Bertrand Russell calls this characteristic "reverence." "The man who has reverence," he writes,

> will not think it his duty to 'mold' the young. He feels in all that lives, but especially in human beings, and most of all in children, something sacred, indefinable, unlimited, something individual and strangely precious, the growing principle of life, an embodied fragment of the dumb striving of the world. In the presence of a child he feels an unaccountable humility -- a humility not easily defensible on any rational ground, and yet somehow nearer to wisdom than the easy self-confidence of many parents and teachers. The outward helplessness of the child and the appeal of dependence make him conscious of the responsibility of a trust. His imagination shows him what the child may become, for good or evil; how its impulses may be developed or thwarted, how its hopes must be dimmed and the life in it grow less living, how its trust will be bruised and its quick desires replaced by brooding will. All this gives him a longing to help the child in its own battle; he would equip and strengthen it, not for some outside end proposed by the State or any other impersonal authority, but for the ends which the child's own spirit is obscurely seeking. The man who feels this can wield the authority of an educator without infringing the principle of liberty.[6]

My quote ends with the word liberty. It's been a useful word: I like it and in general what it has stood for throughout history. Like freedom, however, it has recently picked up so many other connotations -- permissiveness, for example, and license -- that I'm not sure it means the same thing to all of us. This is why, in the educational context and in terms of the needs of the individual I've preferred the word autonomy. I hope that my interpretations of this word will have been useful -- even if provocative and controversial -- as we near the end of our conference.

FOOTNOTES

1. Gage pamphlets, Education 7:6, p. 33.

2. Education and Ecstasy (Delacorte Press, 1968), p. 1.

3. National Education Association, Annual Conference, 1970.

4. "Sectarian Absolutes and Faith in Democracy," The Humanist (Autumn 1941), pp. 110-111.

5. Fourth International Curriculum Conference, Lake Mohonk, N.Y., 1968.

6. Why Men Fight (The Century Company, 1917).

CONCLUDING BANQUET ADDRESS

by

Pierre Berton

Thank you, Mr. Chairman. Ladies and gentlemen, I have to begin by saying that I'm not an expert in education, or really in anything else. And my only criteria for being here are my seven children, all of whom have been subjected to the educational system of this country, with varying results. I have an awful lot of things I want to say today, and I won't get them all said in the short time I have, but I thought I might just start by telling you what I've learned from the educational experiences of some of my children.

My second daughter who is now twenty, is taking anthropology at the University of Toronto. She was talking the other day about the anthropological material she was learning (in fact she was beginning to correct me on several forthright statements I had made which were totally wrong). I said to her, in passing: "I guess you'll be another Margaret Mead -- you'll be writing books about anthropology and you'll be teaching and going around the world and studying interesting people." And she said, "What are you talking about? I'm not going to be an anthropologist."

"What do you mean -- you're not going to be an anthropologist?"

"I wouldn't dream of going into anthropology", she said.

"Well, you're majoring, you're taking an honors course, four years at university in anthropology."

"Yes."

"What for?"

"Because it's interesting", she said. "I'm enjoying it."

So I said, "Well, what are you going to do when you get out of university?"

And she said, "I haven't the slightest idea, and it's not a matter that particularly concerns me." That's the first thing I learned.

Now I have another daughter, and she is now eighteen. But when she was fifteen she came home from high school one March, and she said, "That is it! I can no longer hack it."

I said, "What happened this time?"

She said, "This is the last straw. I was walking down the hall in my two-piecer (which means that she was exposing a bit of her midriff) and the principal stopped me and said I was never to wear that dress again. And that is just the end point of all the little harassments I've suffered at this high school. I am not going back to high school next year. I am a dropout as of now."

I said, "Would you accept some alternate?"

She said, "I might."

So I said, "Well, I've been looking around for one. Because there's no use sending you to school, or forcing you to go to a school that you don't want to go to because you won't learn anything from it." I had heard of a school called The Everdale Place, which I was given to understand was the complete opposite of Woodbridge High, as indeed it was. It is a free school. My daughter was looked over at the free school by a small group of gimlet-eyed children; my wife and I were subjected to some very telling questions like, "Why do you think you want your daughter to go to this school?" and some other questions we couldn't answer; and somewhat to my surprise they accepted her. She spent two years at The Everdale Place, and the results were dramatic. When she emerged from the free school and went on to an art college she was quite a different person than when she went in -- I think a much better person.

I have a great deal of trouble with my friends, answering questions about the free school because the questions themselves are wrong. They're just not relevant. They ask me questions like 'what academic subjects does she take' or 'how will she get into university', or questions like 'what kind of a curriculum do they have', and these questions are so far away from the concept of the free school that not only are there no answers, but also the questions are non-existent. It's very hard to explain that when she went to that free school it was totally free -- that she could do anything she wanted, or nothing; and indeed, a lot of the time appeared to be doing nothing, sleeping in till noon sometimes, staying up till 3:00 o'clock in the morning, arguing about politics. It seemed to be one long bull-session. But she did quite a lot of interesting things: They went to Montreal for a month -- stayed with French-Canadian families -- visited places like the art gallery in Montreal and also moved with a lot of Separatists. Before they went they had studied some French and some French-Canadian history; they had learned about the Province of Quebec as much as they could. It was a very informal kind of education which she chose herself. One week they spent in the city of Toronto going to the courts. They just went to police court every day, and on the final day they got hold of a young lawyer, and spent half a day with him listening to him talk about the courts -- but mainly asking questions about what they'd seen, which horrified them. She didn't even have to go down to the courts. And if she wanted to learn anything, she had to seek out a a teacher and force the teacher to teach her.

I said to her the other day - because I thought she'd really become a much more interesting person as a result of this experience - "If you were to say in one sentence what Everdale did for you, how would you sum it up?" She said, "It changed my system of values." And I don't think I need to say any more than that, because I think that her system of values is a pretty good one now.

Then I have a boy aged fifteen. On his own, about a year and a half ago, he applied to go to another high school within the system, an experimental high school,called Thornlea. Unlike Everdale, which is a private school, Thornlea comes under the school board of York County. It took him a year and a half, but he got into it. I said to him after his first week at Thornlea, "How do you like your new school?" And he used a verb which I'd never heard any child except my daughter at Everdale use before: he said, "I love it." I'd never heard the word 'love' used to describe any other school within the school system; I'd heard the word 'hate' used very often.

At Thornlea when he started off, he had 200 options he could choose from. I didn't believe this, but he showed me the list, and I counted them -- there were 200. The courses are thirteen weeks long, and at the end of a series of courses he can take a minimum of five, or a maximum of eight courses; he's taking seven, and has one free period; every thirteen weeks he takes a different set, and so on, and he's loving it. They have free days at Thornlea on which they stop classes; and again, there are about 100 different things you can choose to do on these free days.

You can go go-kartriding. You can go for a hike up the Bruce Trail -- that's an all day session. Or you can watch old movies. Or you can go downtown to the National Film Board and look at documentaries. Or you can join in one of several discussion groups. Or you can listen to someone like me who is brought in to lecture. Or you can sit around and do nothing.

Finally, I want to tell you about my littlest child who, for four out of the first five years of her life, was conditioned by the television set to accept a certain kind of education. She sat in front of the television set whenever she could. We're a free and easy-going family, and we let her do this. She saw everything from Sesame Street to Bugs Bunny, and appeared to like them all. At the age of five she toddled off to kindergarten. She really wanted to go because all the big kids went to school, and it was a status thing. She came back that night and I said "How was it?" And she said, "It wasn't much." So I said, "What was wrong?" And she said, "Well all we did was sit around and sing little songs and paint little pictures." She said, "I can do that at home -- there was no TV, there was nothing. And more than that, they didn't teach me to write." She said, "I thought you went to school to learn to write, and to read; and I want to learn to write and read. I want to be able to read those little books that my sisters read." Now she has finished her year at kindergarten and has had three months in grade one and she still can't read and she still can't write because they haven't got around to teaching much about that yet. And she's still painting little pictures -- a child conditioned to some of the most sophisticated educational techniques we have, albeit commercial ones.

So I learned quite a bit about education from those four children.

I learned, first of all, to a lot of young people these days education seems to be an end in itself and not a means to an end, or a means to a job. Secondly, if you want to get kids enthusiastic about education, give them a choice, and give them as free a choice as possible. Thirdly, the interaction of people is a very important part of education -- perhaps the most important thing we should be teaching kids is how to get along with each other. Finally, by programming children as we are with TV, we can't expect to set that device aside once they get into the school system.

But there are a lot more things than that, and I think that this conference has underlined some of them. What this conference has been saying, and what I have learned from my experiences, is that the educational system as we know it is obsolete. The schools are obsolete. The authoritarianism of the system is obsolete. The goals are obsolete. The values are obsolete. The teaching methods and the tools used in the teaching process -- are obsolete. That being so, why doesn't the whole thing just break down and crumble as other institutions such as the church are crumbling? The answer is that the educators have something going for them that nobody else has. That is, that education is compulsory; the kids have to go by law. Like it or not, they have to go and they have to sit in that room. It doesn't matter if it's the worst teacher in the world, or the stupidest methods, they have to sit there; and they're there for all of the day, so that when you count the house it's always full - it's not like the theatre.

Now there are other educational institutions in this country which are not compulsory, and because of that they have had to change much more swiftly than the educational system has had to change. I call to your attention one that you probably haven't thought of, and that is the Boy Scouts' Association. The Boy Scouts have been going since Baden-Powell's day about 1905. They have always been a voluntary educational institution with a rigid curriculum, an authoritarian system in which the young kid moved in and was given a course of study, laid down in a manual, and imposed upon him by people above him. He moved through that system from Tenderfoot, to second class to first class, to Queen's Scout, to Bushman's Thong and so on. In that system there was no such thing as a peer group. The older ones were in charge and the younger ones were at the bottom, and the Scout master was the god. Everybody wore a uniform, and that was as symbolic of the association as anything else. I went through it and I liked it. But something began to happen to the Scout movement after World War II. It began to lose proportionately large numbers of Scouts, and it was in danger of dying out. Now two years ago, after a long period of soul-searching - because as you can imagine it's a very tradition-bound organization - they chucked out almost everything that Baden-Powell held dear. And they brought in a new kind of Scout system, which isn't very well-known but which is in operation now. First of all, kids rarely wear the uniform any more. Second, the building itself, the Scout hall, is practically obsolete; it is used once a month for a meeting of the whole troup, for those rituals and performances which most institutions need to hold themselves together. But the meetings that count are held in people's homes, by kids who are not in uniform, often with no adults present. If an adult is present, he is there as a resource person and not as a leader -- as an advisor. It could be a different adult every time - someone who knows something about which the kids want to know. It might, for instance, be a racing driver. The curriculum has been blown wide open -- free choice -- a whole series of different streams. A boy can elect to enter any stream, or all of them. Not only that but the authoritarianism of age has vanished. In my day you entered at the age of twelve and you got out at the age of seventeen. You moved a notch at a time until when you were sixteen you probably became a patrol leader. You were boss of those little kids, and you told them what was what. All that is out and all the twelve year olds are in one patrol, all the thirteen year olds are in another. They elect their own leader. The Scoutmaster doesn't appoint them as he used to. And they keep changing them as often as they want. Now the Scouts changed, although they hated to change, because they had to. The educational system doesn't have to change dramatically or that drastically because at the moment, education is compulsory.

But what has been happening in the world, and in every other system of education (because the official system is only one of many systems) -- is that people are being offered a free choice. There's a dial on both the television set and the radio -- the kids are used to turning it. If they don't like one thing -- if it's dull or stupid - they turn it off and turn something else on. When you go to Expo, or to the mini-Expo's that are being built around this country, whether it's a museum of natural history in Regina, or a planetarium in Vancouver, or a Science and Technology museum in Toronto -- all immensely popular with people of all ages - you see what you want at your own speed, and in your own time. You walk in and you look around, and you say "I'd like to look at that for awhile." You take as much time as you want, or as little time as you want. We are slowly, over the last many years, conditioning almost everybody to this form of free choice; and unless the schools really catch up with this free choice idea they're going to be dead, because we're going to have more and more kids who say, "Compulsory or not -- we ain't going."

I find this congress significant. Here's a congress dedicated to the future in which people are talking about the necessity of adopting swiftly to immense change, and talking about individualism and free choice and new methods of communications. Yet this congress has almost entirely used 19th century methods of communications. Here I am, standing up in front of you, handing down the gospel; all the other speakers have been doing this, too. There's no feedback this way. It seems to me that the whole lecture system is almost obsolete. When I arrived here I asked for the speeches in advance. They were all typed up neatly (except mine) - and I thought: if I can get these speeches in advance, why can't everybody get them about three days in advance? Why can't they read them carefully, mark them up, and then come down here and immediately start questioning the speakers, and challenging some of the assumptions, or getting them to expand on points that they seem to have found bewildering or obscure? I think that would have been a better use of time.

Something else that I found very intriguing: we had a speaker this morning talking about free choice, and after he finished somebody got up and said they wanted some free choice here; could those people who didn't want to go back to the assessment group stay here and set up a panel and have some feedback and some argument? The powers that be said; "well, no, we have this structure here, it's all arranged, and we have the assessment groups, and we've decided to do it our way." All of which suggests that this congress itself hasn't really thought about the implications of communications or education for the future.

When I went to university I had the same criticisms to make. I'm profoundly dismayed to find that it's going on in the universities to this day. You have maybe five hundred kids in a lecture room. Some bird comes in and takes out of his pocket some tattered notes -- a lecture he wrote five years ago - and he starts to read. And we all get our our pencils and we scribble - what are we, students or stenographers? Why is it necessary? Why can't he hand out his notes the day before and then encourage discussion?

The alternative to the school system that people face today are incredible -- I've mentioned some of them -- television, radio, the movies. But the car and the jet plane are forms of education, and they are going to be much more in the future. Students on half-fares are getting a geography lesson, a history lesson and sociology lesson that was not available to anybody, when I grew up in the thirties.

I'd like to throw a few ideas out to you. I suspect that in the future people are going to shop for education as they shop now for rice krispies on the supermarket shelves. I suspect that there's not going to be one school system -- in fact I don't think it will even be called that. The school building itself may become obsolete, replaced by a variety of environments which you can visit on your own to absorb information or ideas, or to indulge in discussion. I suspect that education in the future will be totally free; it won't cost anything, no matter what form it takes; but I also hope and believe that it won't be compulsory - that nobody will be forced to go. I think we've now reached that stage of adulthood in this country where we don't need to have to force anybody to be educated because there are enough facilities available - some of them very attractive - so that everyone can get the kind of education he wants.

When I went to school, we stayed in one room and the teachers came to us. Then the concept of the home room came in; you moved out of that room from time to time, to a lab for instance, or to another room which was better suited for the kind of instruction that room could provide, or to the football field for physical education, or to the gym. I suspect that in the future if there is a school building at all it may be a home building, and you may go to it only rarely. But there may be other buildings all over town more suitable for varying kinds of exciting educational experience which we now confine entirely to the commercial and amusement areas. We have some of these buildings now -- they are called planetariums, museums, science centres, and so on; and they are getting more and more exciting. The Science Centre in Toronto is a wonderful place; the kids love to go there and they learn an awful lot there; so are the planetariums, which are really a big show about the sky. But I would think that much of the old-time carnival gimmickry is going to be used in education in the future. There are two great things about the carnival; one is the walk-through - where you walk through an environment; and the other is the dark-ride (usually called the tunnel of love). Walt Disney took the concept of the dark-ride and made a pseudo-educational experience out of it. For instance he has a submarine ride, where the submarine goes apparently under the water and you see things like a simulated coral field, and experience what it's like to be under the ice in the Antarctic. He has an historical dark-ride in which you are taken in a boat through a replica of New Orleans in the days of the pirate, Jean Lafitte, and you are taken through the middle of a battle in which guns fire from authentic buildings against pirate ships. All this is done commercially, purely for amusement, but there is no reason why that system can't be applied to education, so that scenes from the past or the present are recreated for people. That's exactly what happened at Expo '67, and Expo '70 and the New York World's Fair, the three expositions that I've visited. There was a walk-through at the New York World's Fair in which you suddenly found yourself on a street in Hong Kong. The signs, the sounds, even the smells were recreated. You moved around the corner and you were standing on a ship, overlooking Rio de Janeiro harbour, and you could feel the engines beneath you, and the sway of the water, and smell the sea and hear the call of the sea birds. You turned another corner and you were in a chalet in Austria in the mountains; it was ice cold - frost actually on the rail. There were six of these experiences, all sponsored by the Coca Cola Company, for commercial purposes to show that their product is universal. But that kind of thing is totally adaptable to the educational process.

I felt very sad at Expo '67: here was this beautiful fair which we spent so much money on-lasting six months, and people were only able to go for about three days. They rushed through these incredibly cleverly arranged buildings - like man the explorer - I spent a full day in Man the Explorer with a couple of my kids and felt cheated that I wasn't able to spend three - that I couldn't go back again and again to absorb the information which was so excitingly presented. That kind of thing ought to be around all the time, so that instead of going to a classroom, where someone reads you a book about the sea, you actually become involved.

In this kind of an educational set-up I would think there would be no room, in the humanities or the arts, at least, for exams, for degrees, for entrance requirements, or age requirements. This kind of education should be available to anyone from the age of five to the age of ninety-five - as indeed exhibitions are. We see little children, old men, housewives, foreigners, all staring at the same exhibits, and all learning something about them. The idea that education today is a careful progression, except in certain disciplines like reading or grammar, or mathematics - that you don't learn English history until a certain grade, for instance - is now probably nonsense. The television set has shown that. And I would say that in the future, everyone - adults and youngsters - has a right to a free education, and the right to a free choice. I don't mean that brain surgeons shouldn't write exams. If I go into a doctor's office, I'd like to see his degree framed. But even there, I think we're going to see something like a return to the old apprentice system, maybe an electronic apprentice system, where various devices are used, and a good deal of on-the-job training is taking place.

I can't go too deeply into these wacky futuristic predictions because I want to talk about something else. It's all very well to talk about the future, and that's what we've been doing here. It's very exciting and terribly important that we think in terms of what's going to happen, and that our minds become stretched to the point where we accept this kind of radical change. But if we continue to perpetuate an educational system which is based totally on middle class values and is beamed at middle class white children we really will have failed. At the moment the middle-class educational system is self perpetuating. It's based on the old copybook maxims, which are no longer in the copybooks but are in the heads of an awful lot of the teachers and parents, and which confuse all of us. I'll only give you one example - the confusion that exists, because of the Calvinist principles, between "work", "vocation" and "job"; or between words like "leisure", "laziness" and "free time". This confusion has resulted in attitudes which are very dangerous to the country -- the attitude for example, which is prevalent, that if people are out of work -- it's really their own fault; that they are generally shiftless and lazy and deserve what they get, and they shouldn't be given too much.

In our educational system today - and I see no evidence that this is going to change in the future because I think futuristic prognostications made here assumed this in our educational system today, we assume certain things. We assume that the student is well fed, that he has enough to eat, that he lives in a house where there is space for him to do his homework, and where there is an environment conducive to him doing homework. But this does not apply to about a third of the population, a fact that we continue to be blind to. Anybody reading economic council reports or reading the recent reports of the senate committee on poverty, or anybody reading the sociology reports that have been available for ten years, or looking at the 1961 census knows this. There are large numbers of children who have to drop out of school because of the jeers of their comrades because of the clothes they wear; there are large numbers of children who can't go to school because they are too hungry to absorb the information; there are large numbers of children who can't go to school because they can't keep up -- they can't keep up because the home environment is so crowded and so difficult, they can't study. We're not talking about a tiny little minority here -- we're talking about a huge group. I suppose this came home to me with more horror than ever before at Expo in the Indian Pavilion. It was a very simple and a very effective little exhibit, in which they simply showed a textbook being given to Eskimo children - Dick and Jane walking down a suburban street with their little dog, Spot. Can you believe it? That is what they were handing kids who live up on Baffin Island and Ellesmere and Coppermine and further south along the MacKenzie river. What on earth has that got to do with the kind of education they need and have to have? No wonder they're not getting to university.

The Metis brief to this commission, which is a very eloquent brief, and I hope you'll all read it, starts off with a phrase 'where there is no today, there can be no tomorrow' -- a very eloquent statement. What is the point of providing for the future if our educational system is such that a third of the present day people aren't tuned in to it? The most horrifying thing I find in that brief is that of the 10,000 students at the University of Alberta from this town there is not one single Metis. Now that is the greatest indictment of the educational system of this province that could possibly be laid out before you.

I come to conferences like this sometimes , profoundly disillusioned because I've been to them before - not this kind of conference but other conferences at which we heard predictions of the future, in which people made bold and brave statements about what was going to happen, and what they were going to do. I always wonder what's going to happen when everybody goes home. You see, it's all very well for me to stand here and say "well, we can have these wonderful Disneyland complexes for education -- it's a great idea. Or we can tear down the schools and build something more effective. Or we can lick poverty so that people can study properly and learn." And everybody says, "that's wonderful, but we can't do that with our school, because we can't beat the system." And the people running the system say, "well, the public wouldn't stand for it. These are great ideas, and they'll come about some day" -- which means 'after I'm out of office'.

What you've had here is a congress which has discussed ends -- and these are very important. I call this a brainwashing congress, because I think the purpose of the congress, a perfectly sensible one, was to brainwash the people in power. I use 'brainwash' in the best sense of the word -- propagandize -- perhaps we should use the word 'educate'; educate them a little more broadly about the future of education and if that is its purpose, then I think that its purpose has at least been partly fulfilled. I would hope that is true. I hope that some of the people with the power will go back and say, "well there's something in this. Maybe we can move a little faster." But really what is needed now, ladies and gentlemen, is a second congress. It's fine to have a congress on ends, but when are you going to have the congress on means. Really, I hope that somebody will stand up here, before this thing ends and say, "Ladies and gentlemen, we're going to have a congress on means, and it will be held six months from now in this hotel, or maybe in less luxurious circumstances. And at it we're going to decide exactly how we're going about achieving the ends we discussed." And for the congress on means we do not need the top people -- we need the bottom people, the people who are going to be affected. We want to get out into the communities and get representatives from all groups, and we'll try to work out a grassroots system where we can change the educational system of this province and possibly of this country. Now the Metis brief if I may quote from it again has some very good ideas about how communities can be organized to do this, and I commend it to you. Because really what we're learning about the future, if we're learning anything, is that the old cliché, which has been mouthed at us for the past century, and has become such a cliché that it's almost a joke - the old cliché really is true. Ladies and gentlemen, the future is in your hands, and nobody else's.